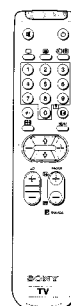
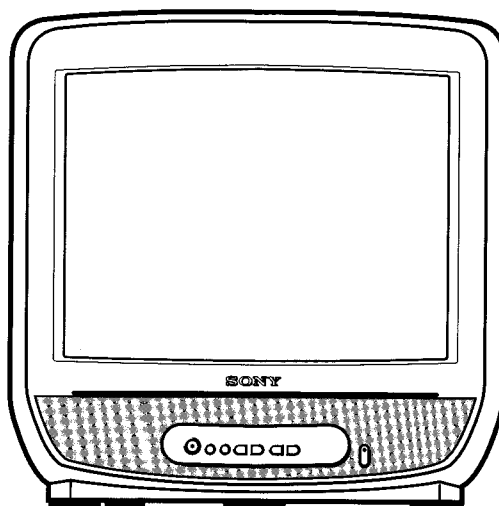


# SERVICE MANUAL

# BE-4 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-M1450A	RM-836	Italian	SCC-H64E-A	KV-M1450E	RM-836	Spanish	SCC-H66C-A
KV-M1451A	RM-836	Italian	SCC-H64D-A	KV-M1451E	RM-836	Spanish	SCC-H66D-A
KV-M1450B	RM-836	French	SCC-H65C-A	KV-M1450K	RM-836	OIRT	SCC-H52E-A
KV-M1451B	RM-836	French	SCC-H65D-A	KV-M1451K	RM-836	OIRT	SCC-H52D-A
KV-M1450D	RM-836	AEP	SCC-H46E-A	KV-M1450U	RM-836	UK	SCC-H50D-A
KV-M1451D	RM-836	AEP	SCC-H46D-A	KV-M1451U	RM-836	UK	SCC-H50C-A



TRINITRON® COLOR TV  
**SONY®**

ITEM	MODEL	Television System	Channel Coverage	Color System
Italian	B/G/H	VHF: E2-E12, S1-S20 UHF: E21-E69		PAL
French	B/G/H, L	VHF: E2-E12, S1-S20, F2-F10, B-Q UHF: E21-E69, S21-S41, F21-F69		PAL, SECAM
AEP	B/G/H	VHF: E2-E12, S1-S20 UHF: E21-E69, S21-S41		PAL, SECAM
Spanish	B/G/H	VHF: E2-E12, S1-S20 UHF: E21-E69, S21-S41		PAL
OIRT	B/G, D/K	B/G VHF: E2-E12 UHF: E21-E69 Hyper: S1-S41 D/K VHF: R01-R12 UHF: R21-R69		PAL, SECAM NTSC 3.58/4.43 (video input only)
UK	I	UHF: 21-69		PAL

MODEL	Italian	French	AEP	Spanish	OIRT	UK
Power Consumption	39W	39Wh	39W	39W	39W	50W

### SPECIFICATIONS

Picture Tube      Black Trinitron  
                          Approx. 36.8 cm (14 inches)  
                          (Approx. 33.7 cm picture measured diagonally)  
                          90° -deflection

#### Input/Output Terminals

##### [INPUTS]

⊖-1 21-pin connector (CENELEC standard)

- audio / video input
- RGB input

##### [OUTPUTS]

Ω Headphone jack : minijack

Sound output      2W (RMS)

3W (music power)

Dimensions      367x369x410 mm approx.

Weight      Approx. 10.0kg

Supplied accessories      RM-836 Remote Commander (1)

IEC designated batteries (2)

Aerial (1)

Other features      TELETEXT (for KV-M1451A/M1451B/M1451D/M1451E/M1451K/M1451U only)


**[RM-836]**

Remote control system    infrared control  
 Power requirements        3V dc (2 batteries) R6 (size AA)  
 Dimensions                    Approx. 210x45x24 mm (w/h/d)  
 Weight                         Approx. 90g (Not including batteries)

**Design and specifications are subject to change without notice.**

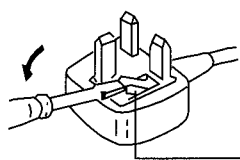
Model name Item	KV-M1450A KV-M1451A	KV-M1450B KV-M1451B	KV-M1450D KV-M1451D	KV-M1450E KV-M1451E	KV-M1450K KV-M1451K	KV-M1450U KV-M1451U
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	OFF	OFF	OFF	OFF	OFF	OFF
Front in (3)	OFF	OFF	OFF	OFF	OFF	OFF
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	OFF	OFF	OFF	OFF	OFF	OFF
Norm B/G/H	ON	ON	ON	ON	ON	OFF
Norm I	OFF	OFF	OFF	OFF	OFF	ON
Norm D/K	OFF	OFF	OFF	OFF	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF
Language Preset	Italian	French	German	Spanish	OIRT	English

### **WARNING ( KV-M1450U/M1451U only )**

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the  mark.

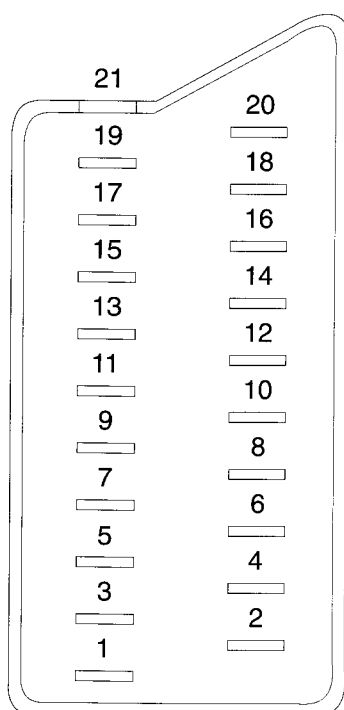
**IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME. IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.**

When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.  
 Open the fuse compartment with the screwdriver blade and replace the fuse.

## 21 pin connector ( ① )



Pin No		Signal	Signal level
1	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance: less than 1kohm*
2	○	Audio input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3	○	Audio output A (left)	Standard level: 0.5Vrms Output impedance: less than 1kohm*
4	○	Ground (audio)	
5	○	Ground (blue)	
6	○	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7	○	Blue input	0.7V±3dB, 75ohms, positive
8	○	Function select (AV control)	High state (9.5—12V): Part mode Low state (0—2V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2nF
9	○	Ground (green)	
10	○	Open	
11	○	Green	Green signal: 0.7V±3dB. 75ohms, positive
12	○	Open	
13	○	Ground (red)	
14	●	Ground (blanking)	
15	○	Red input	0.7V±3dB, 75ohms, positive
	—	(S signal) chroma input	0.3V±3dB, 75ohms, positive
16	○	Blanking input (Ys signal)	High state (1—3V) Low state (0—0.4V) Input impedance: 75ohms
17	○	Ground (video output)	
18	○	Ground (video input)	
19	○	Video output	1V±3dB, 75ohms, positive Sync: 0.3V(—3, +10dB)
20	○	Video input	1V±3dB, 75ohms, positive Sync: 0.3V(—3, +10dB)
	—	Video Input/Y (S signal)	1V±3dB, 75ohms, positive Sync: 0.3V(—3, +10dB)
21	○	Common ground (plug, shield)	

○ Connected    ● Not Connected (open)    \* at 20Hz - 20kHz



## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
<b>1. GENERAL</b>			<b>5. DIAGRAMS</b>		
	Getting Started .....	7	5-1.	Block Diagram .....	25
	TV Operations .....	8	5-2.	Circuit Boards Location .....	29
	Teletext Operation .....	9	5-3.	Schematic Diagrams and Printed Wiring Boards .....	29
	MENU Operation .....	9		* A Board .....	33
	Optional Connections .....	12		* C Board .....	39
	Additional Information .....	13	5-4.	Semiconductors .....	41
<b>2. DISASSEMBLY</b>			<b>6. EXPLODED VIEWS</b>		
2-1.	Rear Cover Removal .....	14	6-1.	Chassis and Picture Tube .....	42
2-2.	Service Position .....	14			
2-3.	Picture Tube Removal .....	15	<b>7. ELECTRICAL PARTS LIST</b> .....		44
<b>3. SET-UP ADJUSTMENTS</b>					
3-1.	Beam Landing .....	16			
3-2.	Convergence .....	17			
3-3.	Screen (G2), Drive, White Balance, Sub Color and Sub Brightness .....	19			
3-4.	Focus .....	19			
<b>4. CIRCUIT ADJUSTMENTS</b>					
4-1.	Electrical Adjustments .....	20			
4-2.	Test Mode 2: .....	21			
4-3.	BE-4 Self Diagnostic Software .....	23			

### CAUTION

**SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.**

### WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

### SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ! ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### ATTENTION

**APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.**

### ATTENTION !!

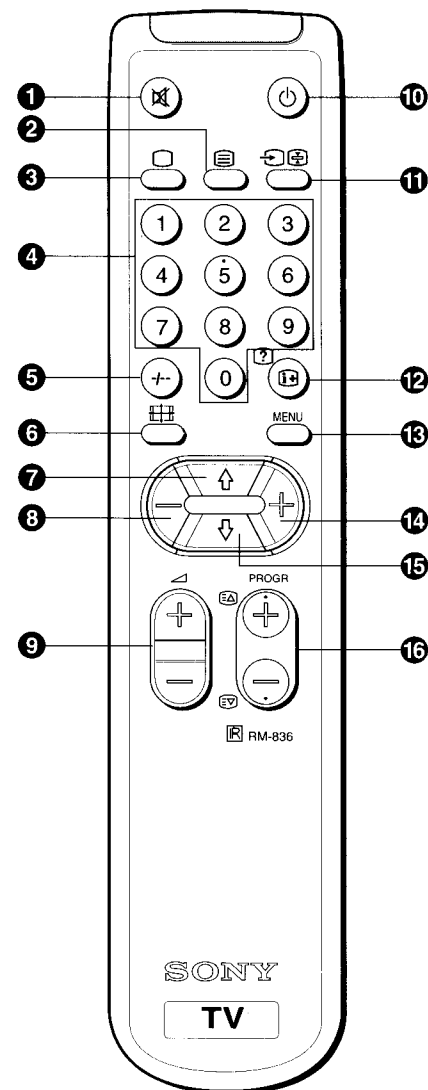
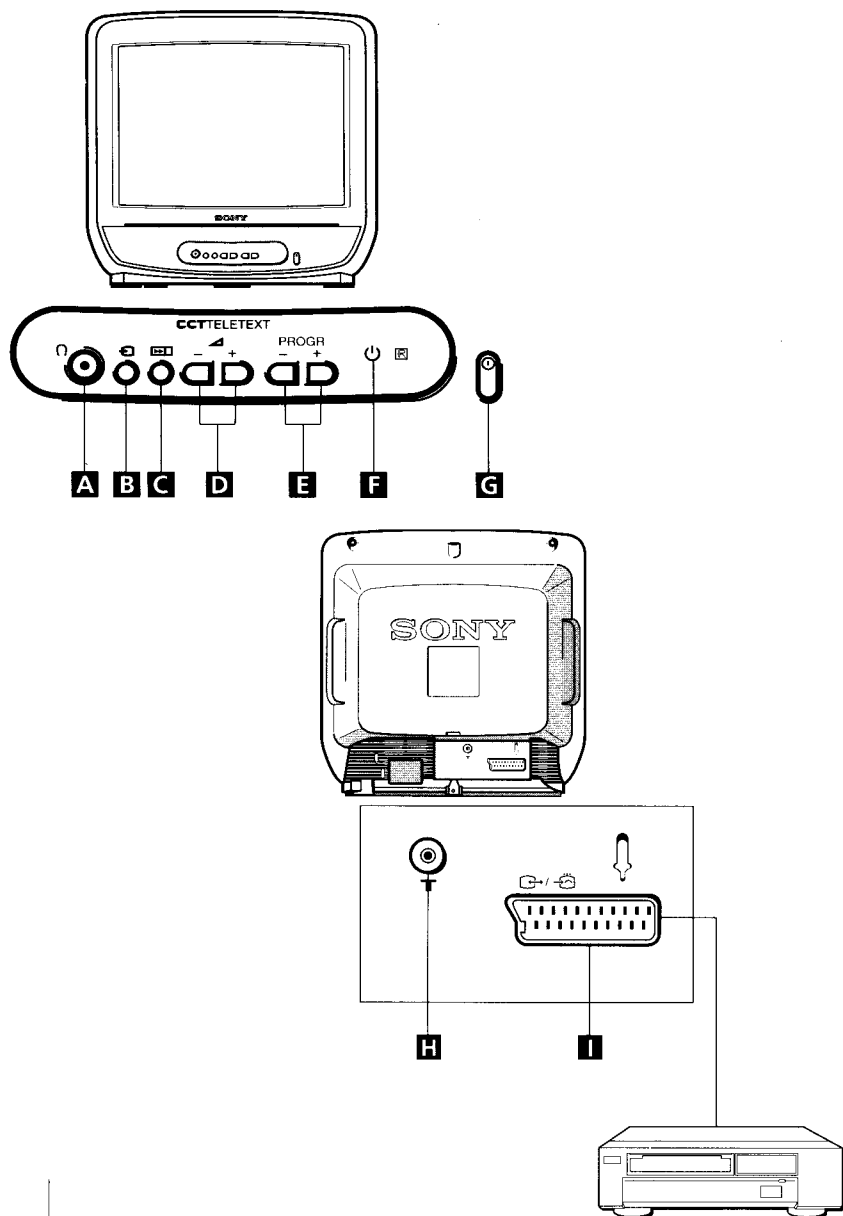
AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

### ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ !!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE ! SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÈCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

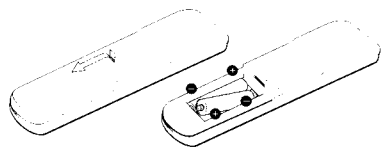


## Getting Started

Please open the flap at the front and at the back of the Instruction Manual for illustrations of the TV set and the Remote Commander. Letters in boxes refer to the buttons on the TV set, numbers in circles to the buttons on the Remote Commander.

### Step 1

## Inserting the Batteries into the Remote Commander



Always remember to dispose of used batteries in an environmental friendly way.

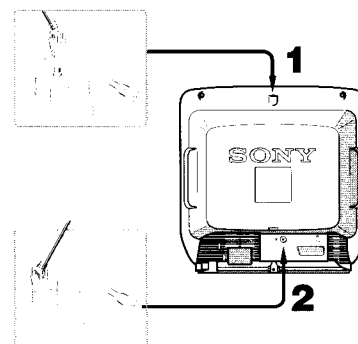
### Step 2

## Connecting the Aerial

(If you are connecting a VCR, skip to step 3).

Connect an external aerial to the socket **TF** **H**.

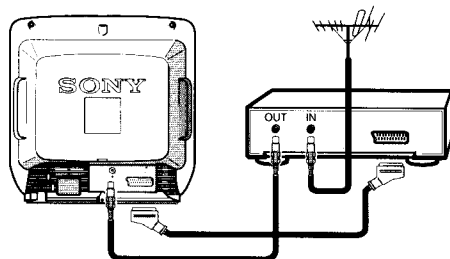
Where an external aerial is not available connect the indoor aerial supplied:



- 1** Insert the supplied aerial into the opening on top of the set.
- 2** Connect the aerial to the socket **TF** **H** on the rear of the set.
- 3** Adjust the aerial for optimum reception.

## Step 3

### Connecting a VCR

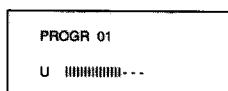


We recommend that you tune in the signal to programme number "0".  
For details see "Presetting Channels Manually" on page 31.

## Step 4

### Presetting Channels Automatically

TV searches for all available channels.  
If manual tuning is preferred see Menu option - Presetting Channels Manually.



- 1 Plug into mains.  
Depress power switch **G** on TV set.

- 2 Press and hold **▶▶** **G** on TV set for 2 seconds.  
Auto tuning starts and screen shows.

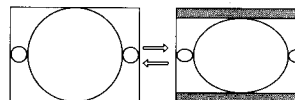
When Auto tuning stops, the programme position 1 is displayed.

## TV Operation

### TV Operation

This section explains functions used whilst watching TV. Most operations are carried out using the Remote Commander (numbers in circles). All basic functions are also available on the TV set (letters in boxes).

To	Press
Switch on	⓪ <b>G</b> on TV
Switch off temporarily	⓪ <b>10</b> <i>TV is now in standby mode, ⓪ indicator <b>F</b> on TV lights.</i>
Switch on again	⓪ <b>3</b> , <b>PROGR +/-</b> <b>16 E</b> or any number button <b>4</b>
Switch off completely	⓪ <b>G</b> on TV <i>To save energy we recommend switching off completely when TV is not in use.</i>
Select programmes	<b>PROGR +/-</b> <b>16 E</b> or number buttons <b>4</b> <i>For double digit numbers press -/- <b>5</b> then the number e.g. For 23, press -/- <b>5</b> then 2 and 3.</i>
Display the programme number	<b>12</b> <b>12</b> <i>Press again to make programme number disappear.</i>
Adjust the volume	<b>▲/▼</b> <b>9 D</b>
Mute the sound	<b>⊘</b> <b>1</b> <i>Press again to restore sound.</i>
View video input	<b>↺</b> <b>11 B</b> <i>Press again to return to TV programme.</i>
View programmes in 16:9 mode	<b>16:9</b> <b>6</b> <i>Press again to return to 4:3 mode.</i>





**Note:** **16:9** **6** is to be used to optimise the viewing of 16:9 signals which will be available in the future.

**Teletext Operation (only for KV-M1451D)**

# Viewing Teletext



Teletext is an information service broadcast by TV stations.

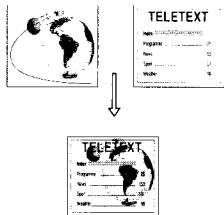
- 1 Select the channel which carries the teletext service you wish to receive.
- 2 Press  **2** to switch on teletext.
- 3 Input three digits for the page number using the programme number buttons **4** or PROGR +/- **16 E**.
- 4 Press  **3** to switch off teletext.

Teletext errors may occur if the broadcasting signals are weak



## Using Other Teletext Functions

### Superimposing teletext on the TV


Press  **2** once in teletext mode or twice in TV mode to superimpose teletext on the TV screen.  
Press  **2** again to cancel superimposing.



### Freezing a teletext subpage

Press  **11** (HOLD) to freeze the subpage. Freezing the page prevents the information that is displayed from being updated.  
Press  **11** to cancel HOLD and allow update to continue.

### Revealing concealed information (eg: answers to a quiz).

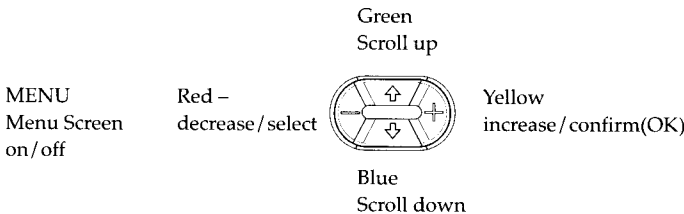
Press  **12** to reveal information.  
Press again to conceal the information.

### Using colour buttons to access pages

When the colour coded menu appears at the bottom of a page, press the colour button (red, green, blue or yellow) **8 7 15 14** to access the corresponding page.




## MENU Operation

Use buttons on Remote Commander to control Menu screen.




## Adjusting the Picture

- 1 Press MENU **13**.
- 2 Press green **7** or blue **15** button to select the item you wish to change.

Symbol	Item	-	Effect	+
	Picture	Less	More	
	Colour	Less	More	
	Brightness	Darker	Brighter	

- 3 Press red **8** or yellow **14** button to change levels.
- 4 Press MENU **13** to return to normal TV screen.

To reset to factory preset picture levels, press green **7** or blue **15** button to select  and press yellow (OK) **14** button.

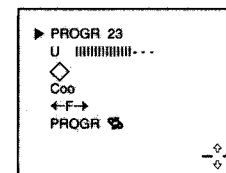
## Using the Sleep Timer

The TV may be set to switch to the standby mode automatically after a length of time chosen by you. You may set the time in 30 minutes steps up to 4 hours.

- 1 Press MENU **13**.
- 2 Press green **7** or blue **15** button to select **⏻**
- 3 Press red **8** or yellow **14** button to set time delay.  
0.00 (OFF) 0.30 1.00 1.30 .... 4.00
- 4 Press MENU **13** to return to normal TV screen.  
When watching TV, press **12** to display time remaining.

## Presetting Channels Manually

Up to 60 programme positions are available for presetting channels.



- 1 Press MENU **13**.
- 2 Press green **7** or blue **15** button to select **↔** and press yellow (OK) **14** button.
- 3 Select programme number using PROGR +/- **16** **E** or the number buttons **4**.
- 4 Press green **7** or blue **15** button to select TV system if necessary and press red **8** or yellow **14** button to change TV system.
- 5 Press green **7** or blue **15** button to select tuning bar and press red **8** or yellow **14** button to start channel search. When a channel is found the tuning bar stops moving and you see the picture.
- 6 If you want to store, press green **7** or blue **15** button to select **◇** and press yellow (OK) **14** button. If you don't want, press red **8** or yellow **14** button to continue search.
- 7 Repeat steps 3 to 6 for all other channels.
- 8 Press MENU **13** to return to normal TV screen.

## Skiping Programme Positions

You can skip unused programme positions when selecting channels with the PROGR +/- **16** **E** buttons. You can still select them, however, using the number buttons **4**.

- 1 Press MENU **13**.
- 2 Press green **9** or blue **15** button to select ⇨ and press yellow **14** button.
- 3 Select programme number you want to skip using PROGR +/- **16** **E** button or number buttons **4**.
- 4 Press green **7** or blue **15** button to select Coo and press yellow (OK) **14** button.
- 5 Press green **7** or blue **15** button to select ◇ and press yellow (OK) **14** button to store.
- 6 Repeat steps 3 to 5 for other unused programme positions.
- 7 Press MENU **13** to return to normal TV screen.

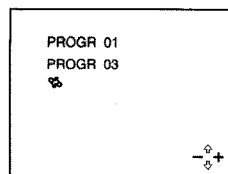
## Fine-Tuning Channels

You can fine tune a stored channel.

- 1 Select the channel you wish to fine tune.
- 2 Press MENU **13**.
- 3 Press green **7** or blue **15** button to select ⇨ and press yellow (OK) **14** button.
- 4 Press green **7** or blue **15** button to select ⇨F⇨ and use red **8** or yellow **14** button to adjust tuning.
- 5 Press green **7** or blue **15** button to select ◇ and press yellow (OK) **14** button to store.
- 6 Press MENU **13** to return to normal TV screen.

## Exchanging Programme Positions

After tuning you may wish to rearrange the programme positions.



- 1 Press MENU **13**.
- 2 Press green **7** or blue **15** button to select and press yellow (OK) **14** button.
- 3 Press green **7** or blue **15** button to select and press yellow (OK) **14** button.
- 4 Press red **8** or yellow **14** button to select the first programme position.
- 5 Press the blue **15** button.
- 6 Press the red **8** or yellow **14** button to select the second programme position.
- 7 Press blue **15** button to select and press yellow (OK) **14** button to exchange.
- 8 Repeat steps 4 to 7 for other programme positions.
- 9 Press MENU **13** to return to normal TV screen.

## Optional Connections

### Using 21-pin Connector

Your TV has one 21-pin connector **1** on the rear of the set. You can connect optional audio or video equipment to this connector, such as a VCR, video games or a video disc player.

- 1 Press **11** **B** to view the video input signal.
- 2 Press **11** **B** or **3** to return to normal TV operation.

### Connecting Headphones








Plug in the headphones to the **A** socket on the front of the TV set. The sound from the speaker is now muted.



Additional Information

# Troubleshooting

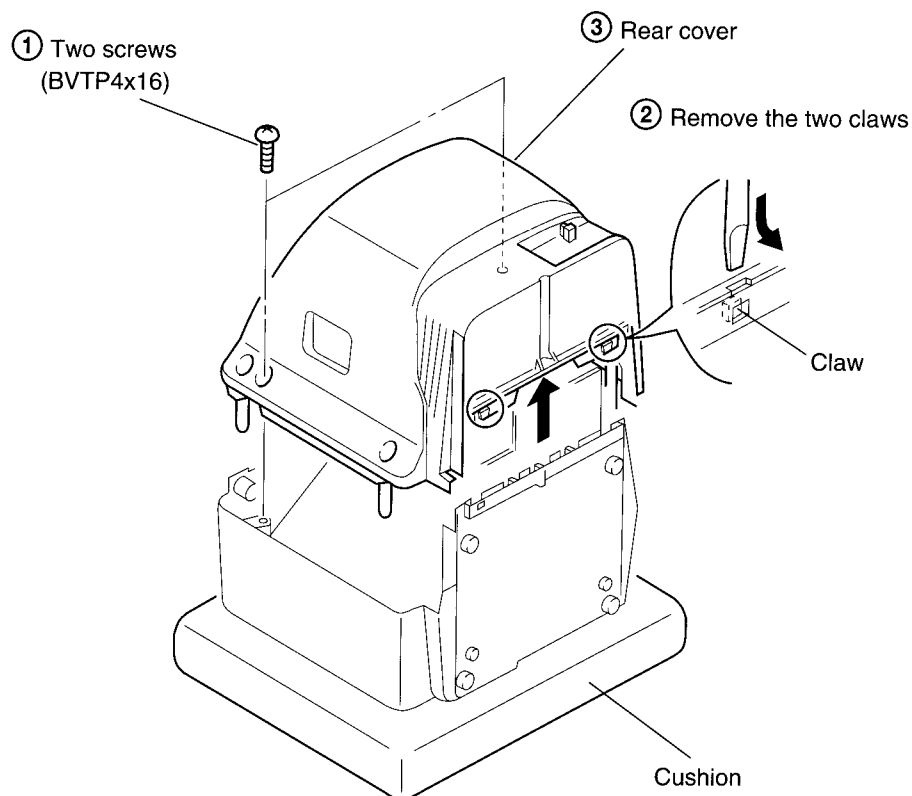
Here are some simple solutions to the problems which affect the picture and sound.

Problem	Solution
No picture, screen is dark, no sound	<ul style="list-style-type: none"> <li>• Plug the TV in.</li> <li>• Press  <b>G</b> on the TV.</li> <li>• If  indicator <b>F</b> is on press  <b>3</b> or the programme number <b>4</b> on the remote commander.</li> <li>• Check the aerial connection.</li> <li>• Check that the video source is on.</li> <li>• Turn the TV off for 3 or 4 seconds and then turn it on again using  <b>G</b>.</li> </ul>
Poor or no picture (screen is dark, sound is good)	<ul style="list-style-type: none"> <li>• Press MENU <b>13</b> and adjust brightness picture and colour balance level.</li> </ul>
Good picture, no sound	<ul style="list-style-type: none"> <li>• Adjust the volume  +/- <b>9 D</b>.</li> <li>• Disconnect any headphones.</li> <li>• If  is displayed on the screen, press  <b>1</b>.</li> </ul>
No colour on colour programmes	<ul style="list-style-type: none"> <li>• Press MENU <b>13</b> and adjust colour balance.</li> <li>• Press MENU <b>13</b> and reset to factory settings.</li> </ul>
Distorted picture when changing programmes or selecting teletext	<ul style="list-style-type: none"> <li>• Turn off the equipment connected to the 21-pin connector <b>1</b>.</li> </ul>
Remote commander does not function	<ul style="list-style-type: none"> <li>• Replace the batteries.</li> </ul>

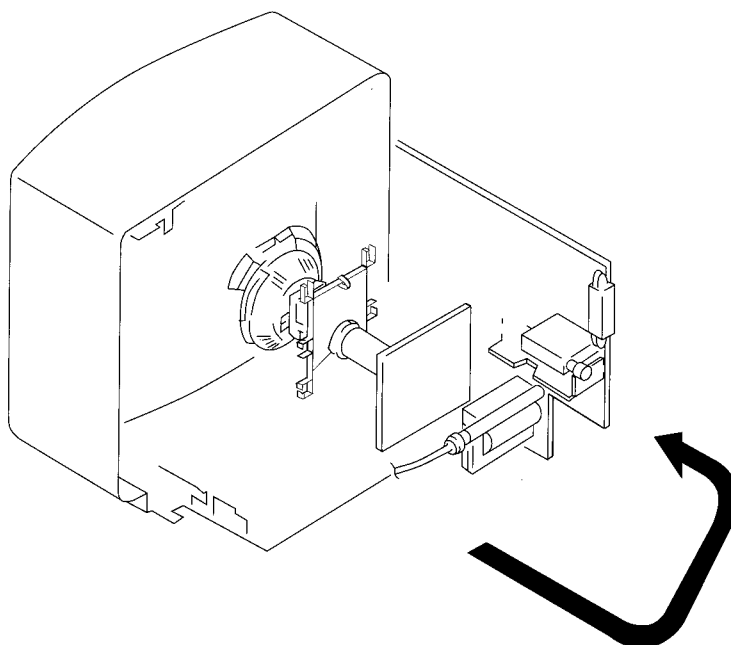
- **If you continue to have these problems, have your TV serviced by qualified personnel.**
- **NEVER open the casing yourself.**

## SECTION 2 DISASSEMBLY

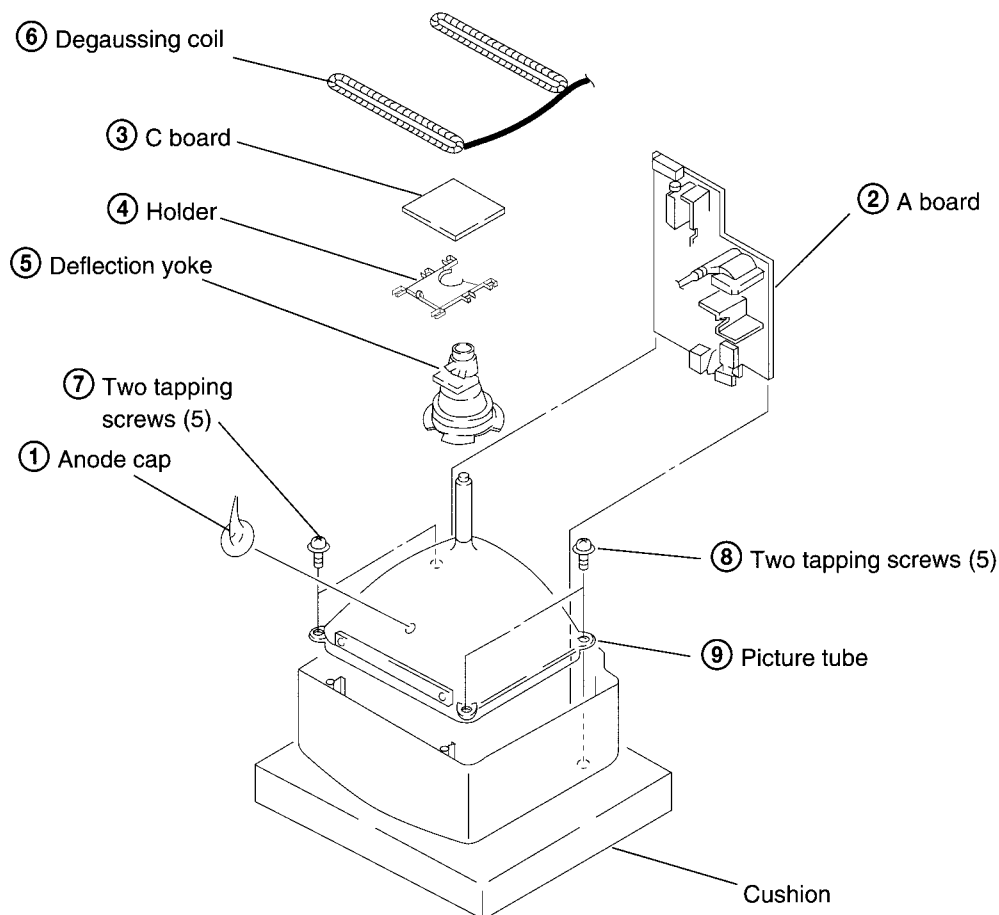
### 2-1. REAR COVER REMOVAL



### 2-2. SERVICE POSITION



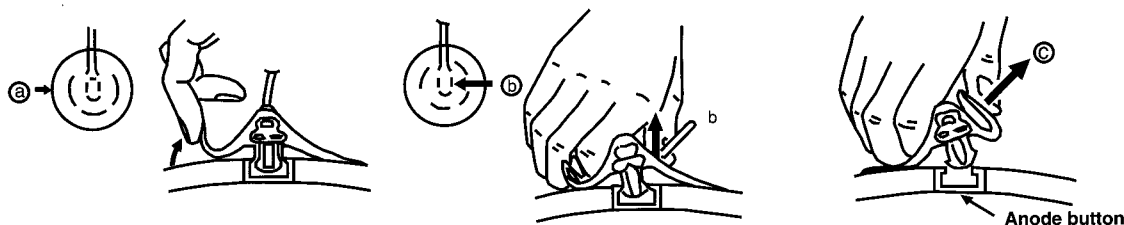
## 2-3. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

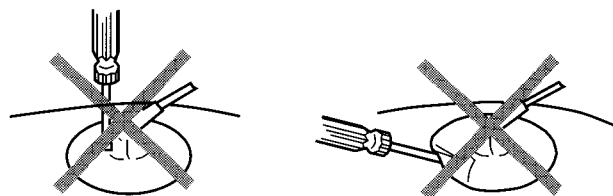
**Note:** Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

#### \* REMOVING PROCEDURES.



#### • HOW TO HANDLE AN ANODE-CAP

- ① Don't damage the surface of anode-cap with sharp shaped material !
- ② Don't press the rubber hardly not to hurt inside of anode-caps !  
A metal fitting called as shatter-hook terminal is built into the rubber.
- ③ Don't turn the foot of rubber over hardly !  
The shatter-hook terminal will stick out or damage the rubber.



## SECTION 3

### SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with the rated power supply voltage, unless otherwise noted.

The Contrast and Brightness controls should be set as follows unless otherwise noted:

● CONTRAST control ..... 80%  
(or Normal by commander)

☀ BRIGHTNESS control..... 50%

Perform the adjustments in the following order:

1. Beam Landing
2. Convergence
3. Screen (G2), Drive, White Balance, Sub Color and Sub Brightness.
4. Focus

**Note:** Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

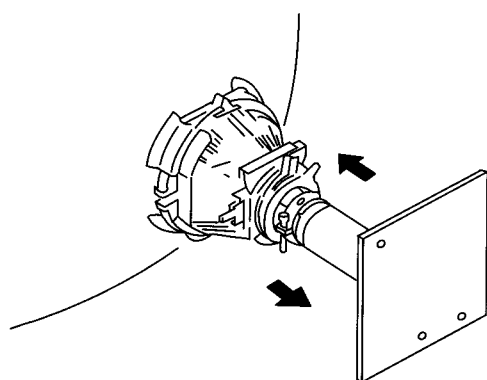
**Preparation:**

- In order to reduce the influence of external magnetic forces on the picture tube, face the TV set in an easterly or westerly direction.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

### 3-1. BEAM LANDING

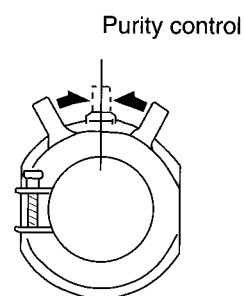
Demagnetize with a degausser.

1. Input an all white raster signal from the pattern generator.  
CONTRAST } normal  
BRIGHTNESS }
2. Switch the raster signal of the pattern generator to Red.
3. Move the deflection yoke backward, and adjust with the purity control so that Red is at the center and the Blue and Green are evenly spaced at the sides. see (Fig. 3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes Red. (Fig. 3-1)
5. Switch the raster signal to Blue and then Green to confirm the condition.
6. When the position of the deflection yoke has been determined, tighten it with the deflection yoke mounting screw.
7. When the landing at the corners is not correct, adjust by using disk magnets. (Fig. 3-4)

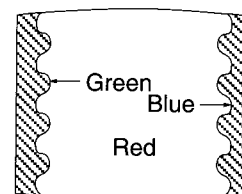


**Fig. 3-1**

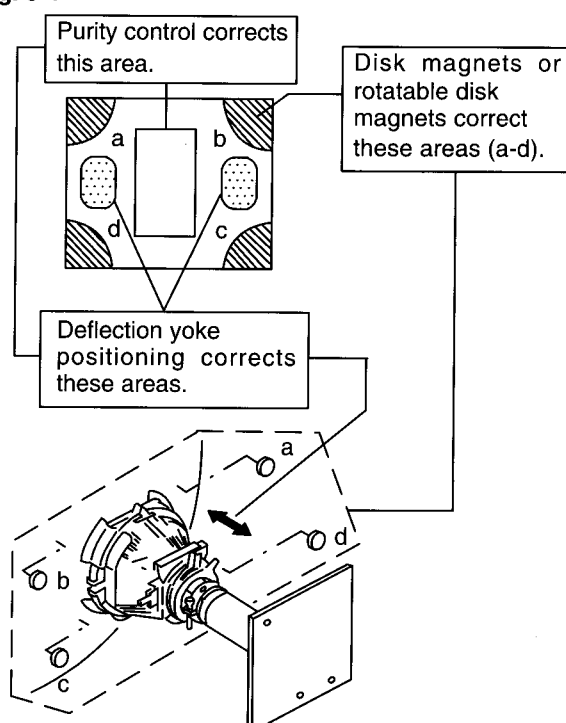
**Fig. 3-2**



**Fig. 3-3**



**Fig. 3-4**

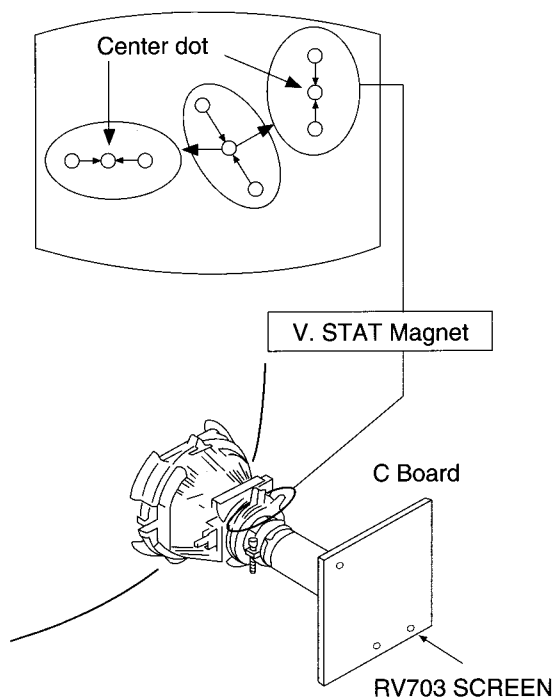


### 3-2. CONVERGENCE

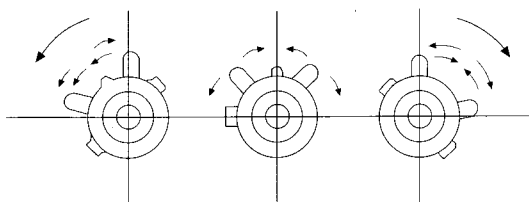
#### Preparation:

- Before starting, perform FOCUS, H.SIZE, and V.SIZE adjustments.
- Set the BRIGHTNESS control to minimum.
- Input a dot pattern from the pattern generator.

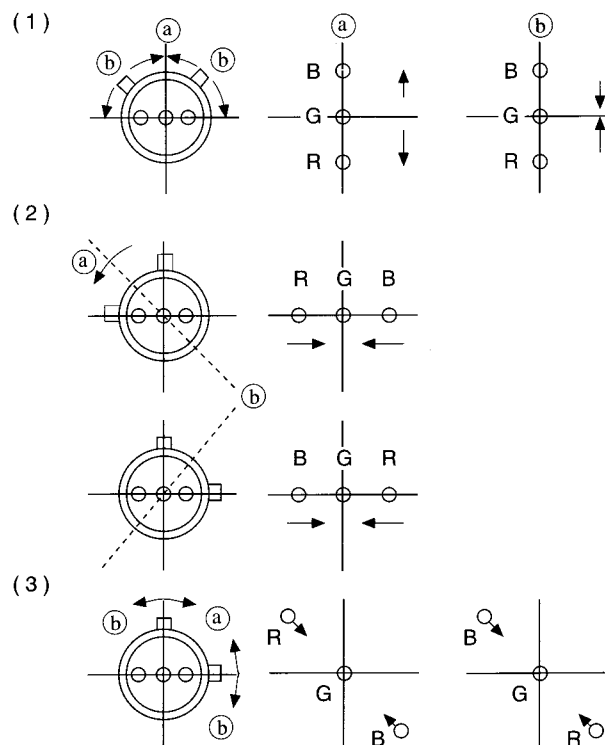
#### (1) Horizontal and Vertical Static Convergence



1. Adjust the V. STAT magnet to converge the Red, Green and Blue dots at the center of the screen. (Vertical and Horizontal movement)
- Tilt the V. STAT magnet and adjust the static convergence by opening or closing the V. STAT magnet.



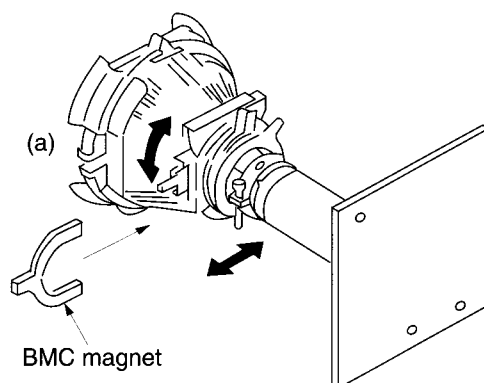
2. When the V. STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue dots move as shown below.



If the Red and Blue dots do not converge with the Green dots, perform the following steps.

1. Move the BMC magnet (a) to correct for insufficient H.static convergence.
2. Rotate the BMC magnet (b) to correct for insufficient V.static convergence.

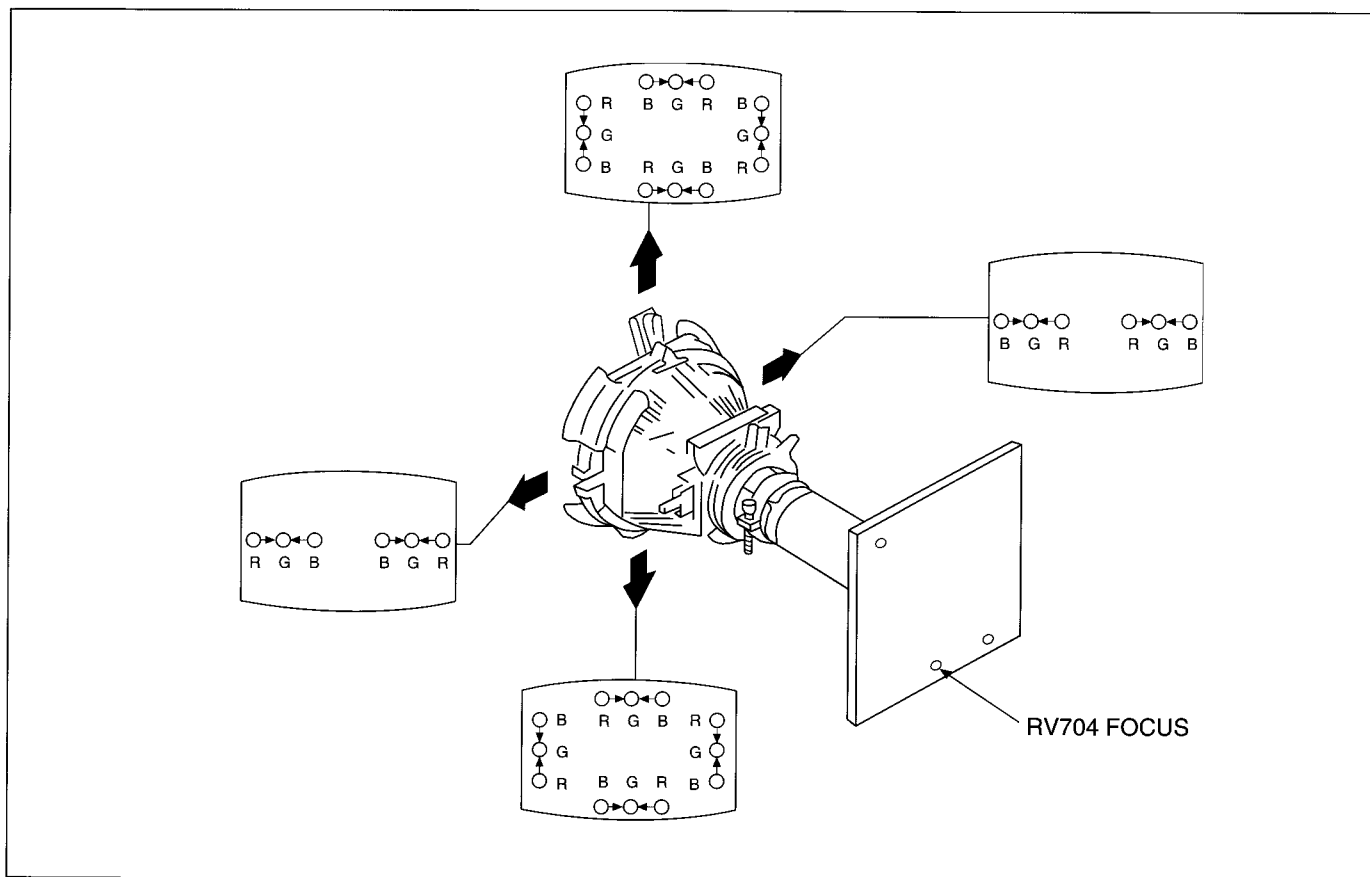
In either case, repeat the Beam Landing Adjustment.



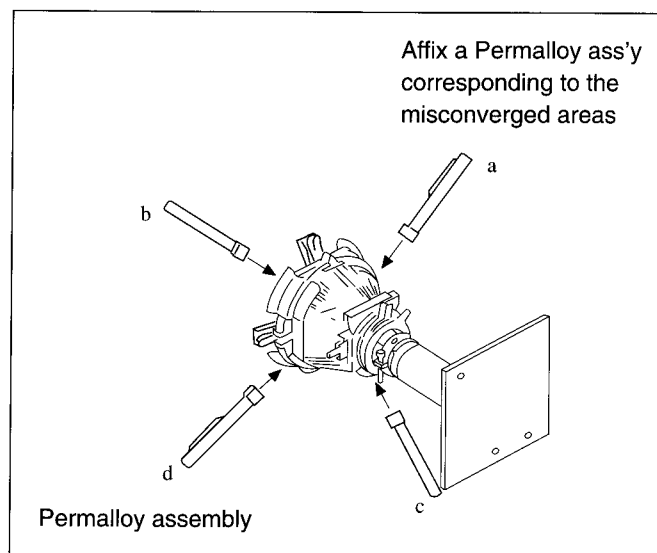
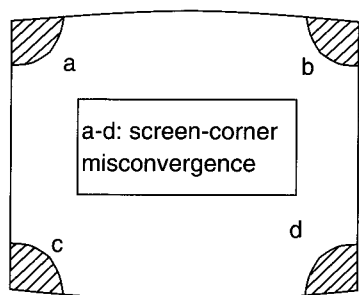
## (2) Dynamic Convergence Adjustment

### Preparation:

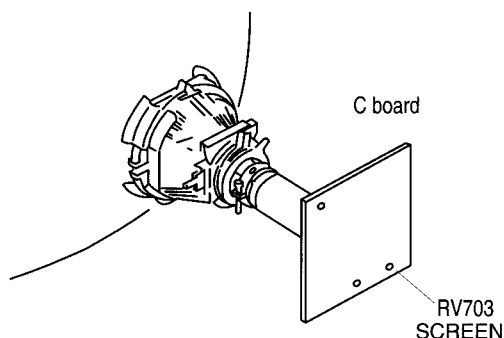
- Before starting to perform the Horizontal and Vertical static convergence adjustment.
1. Slightly loosen the deflection yoke screw.
  2. Remove the deflection yoke spacers.
  3. Move the deflection yoke for best convergence as shown below.
  4. Tighten the deflection yoke screw.
  5. Install the deflection yoke spacers.



## (3) Screen-corner Convergence.



### 3-3. SCREEN (G2), DRIVE, WHITE BALANCE, SUB COLOR and SUB BRIGHTNESS.

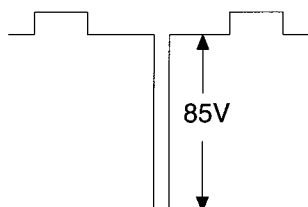


#### Screen (G2) setting

1. Input a 0 IRE (Black Level) signal from the pattern generator.
2. Enter into the Service Mode "Test""Test" and 38.
3. Adjust RV703 until the Down arrow is displayed.
4. Adjust RV703 until the Down arrow just disappears.
5. Press the TV Button on the Remote Commander to store the data.

#### Drive Level

1. Input a Video signal containing a small area of 100% white on a black background.
2. Connect an oscilloscope to Pin ⑦ of J701 (R OUT) on the C Board.
3. Set the Picture to maximum using "Test""Test" and 01.
4. Enter into the Service mode (Adjust Menu).
5. Using the Blue and Green buttons select "RED HWB".
6. Using the Red and Yellow buttons on the Remote Commander adjust until the oscilloscope waveform has an amplitude of 85V.

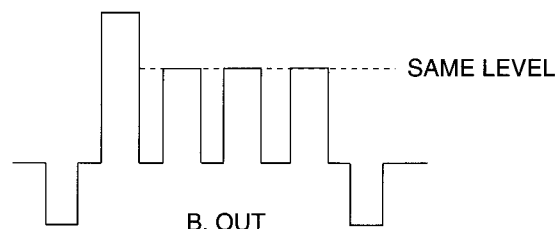


#### White Balance Adjustment

1. Input an all white pattern from the pattern generator.
2. Adjust the Color and Brightness controls to the standard level.
3. Enter into the Service Mode.
4. Adjust the Green HWB and Blue HWB so that the White Balance becomes optimum.

#### Sub Color Adjustment

1. Input a PAL color bar pattern from the pattern generator.
2. Connect an oscilloscope to Pin ⑤ of J701 (B OUT) on the C Board.
3. Enter into the Service Mode "Test""Test" and 22.
4. Using the Red and Yellow buttons on the Remote Commander adjust until the oscilloscope waveform becomes as follows :



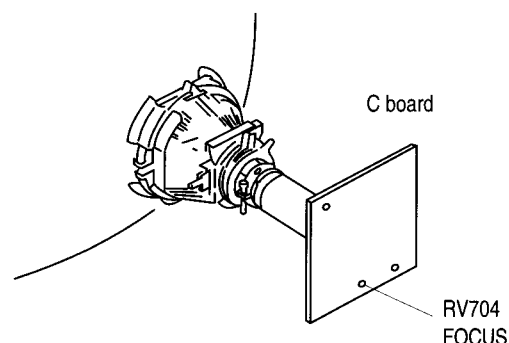
**Note :** If the TV is able to receive PAL and SECAM transmissions, repeat the above procedure using a Secam color bar signal.

#### Sub Brightness Adjustment

1. Input a Philips pattern from the pattern generator.
2. Enter into the Service Mode "Test""Test" and 23.
3. Using the Red and Yellow buttons on the Remote Commander adjust until the 0 IRE of the grey scale and the cut off are only slightly visible on the screen.

### 3-4. FOCUS

Adjust the FOCUS control RV704 so that the whole screen is in best focus.



## SECTION 4

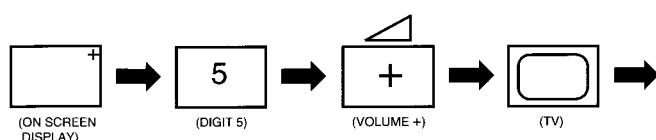
### CIRCUIT ADJUSTMENTS

#### 4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied Remote Control Commander RM-836.

##### HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power of the set and enter into stand-by mode.
2. Press the following sequence of buttons on the Remote Control Commander.



"TT-- " will appear in the top right corner of the screen  
Other status information will also be displayed.

3. Press the MENU button on the Remote Commander to obtain the menu on the screen.

Adjust.			
▶ 16:9	ON		
System			
Text			
AGC	33	00-63	
PLL	32	00-63	
V1	.00-01	SONY	BE4

Software version

Range of adjustments available from the on screen menu system.

Adjustment	Set	Range
16:9 Off	Select	ON/OFF
System	Select	BG-L, BG-DK UK, Eire, BG
Text	Select	EAST/WEST
AGC	Adj.	00 - 63
PLL	Adj.	00 - 63
B&W Delay	Adj.	00 - 63
Ver Size	Adj.	00 - 63
Ver, Breath	00	00 - 63
Par, Ampl	00	00 - 63
Par, Tilt	32	00 - 63
V, Linear	Adj.	00 - 63
Corn, corr	00	00 - 63
V, Cen or EW	Adj.	00 - 63
V, Position	42	00 - 63
H, Centre	Adj.	00 - 63
Blue HWB	Adj.	00 - 63
Green HWB	Adj.	00 - 63
Red HWB	Adj.	00 - 63

4. Press the Blue (Next) or Green (previous) buttons to select the adjustment item from the table.
5. Press the Yellow (+) or Red (-) buttons to change the data as required.
6. Turn off the power to quit the service mode when adjustments are completed.



## 4-2. TEST MODE 2:

TT -- Mode is available by pressing the Test button twice, O.S.D 'TT --' appears. The functions described below are available by pressing two digits. To release the 'TT --' mode, press 0 twice, press 'TEST' , press 'TV' or switch the TV into Stand-by mode.

00	Switch 'TT--' Mode off.
01	Set picture level to maximum.
02	Set picture level to minimum.
03	Set volume to 35%.
04	Set volume to 50%.
05	Set volume to 65%.
06	Set volume to 80%.
07	Ageing condition (picture max., brightness max.).
08	Shipping condition (Analog values are RESET to factory setting, Prog 1 is selected, TT--mode switched off, Vol = 35%).
09	Dummy.
10	No function.
11	Dummy
12	Text Picture Level Offset (Enable/Disable)
13	Select Odd / Even field for Non-interlaced teletext.
14	Select Interlaced / Non-interlaced teletext display.
15	Read factory setting from ROM to NVM - Reads Volume, Brightness, Picture, Hue, Sharpness and Colour values from ROM to the actual used values (Last Power Memory).
16	No function
17	Enable / Disable Sharpness Operation.
18	Enable / Disable Teletext Operation.
19	Enable / Disable NTSC Operation.
20	No function.
21	Sub Picture.
22	Sub Colour (Pal / Secam Different Stores)
23	Sub Brightness.
24	Destination System BG/L.

25	Destination Systems BG/L.
26	Destination Systems I.
27	Destination System I/I'.
28	Destination BG only.
29	Dummy.
30	No function.
31-32	Dummy.
33	Auto AGC Adjust.
34	Auto PLL Adjust.
35-37	Dummy.
38	Enter G2 adjustment mode.
39	Dummy.
40	No function.
41	Re-initialise NVM.
42	Dummy.
43	Re-initialise Geometry settings.
44-47	Dummy
48	Set NVM testbyte to 44h in NVM.
49	Erase NVM testbyte
50	No function.

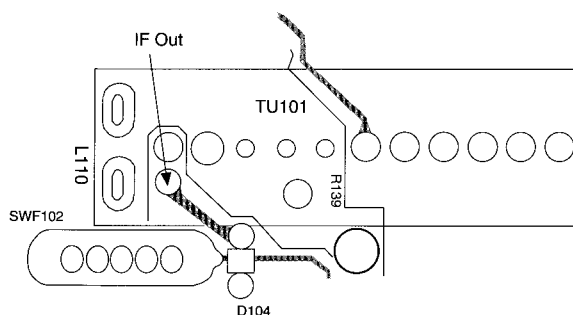
**Note :** For Test Modes 41 - 50, it is necessary to ensure that the TV is set to Prog 59.

**IF ADJUSTMENT (AUTOMATIC)**

1. Input a 38.9 MHz 100dB $\mu$  CW signal at the IF Out injection point.
2. Enter into service mode and press 34.
3. Connect a digital voltmeter to IC101 pin (23).
4. Check AFT 2.5V  $\pm$ 0.3V dc.
5. Press '00' on the Remote Commander.

**SYSTEM L ADJUSTMENT ( French Models)**

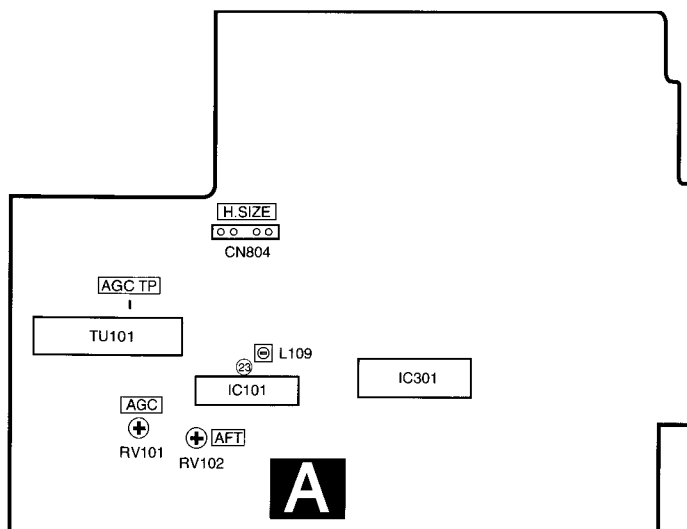
1. Input a 33.9MHz 100dB $\mu$  CW signal at the IF Out injection point.
2. From the On Screen Menu set System to L band 1.
3. Connect a digital voltmeter to IC101 pin (23).
4. Adjust RV102 AFT for 2.5V  $\pm$ 0.3V dc.



- A Board Print Side -

**AGC ADJUSTMENT**

1. Receive an off-air signal.
2. Enter into the Service adjust menu and select AGC.
3. Adjust the data using the Red and Yellow buttons on the Remote Commander so that there is no snow or cross - modulation visible on the screen.
4. Change the receiving off-air channel, and confirm the above status.



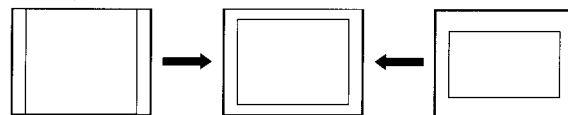
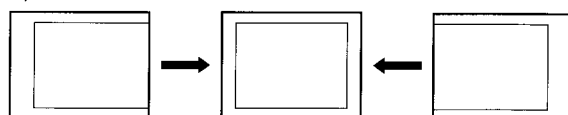
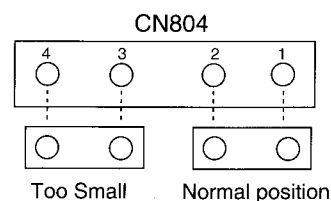
- A Board Component Side -

**DEFLECTION SYSTEM ADJUSTMENT**

1. Enter into the service mode.
2. Using the Blue or Green buttons select the Adjust item.
3. Press the Yellow button to enter the adjustment submenu.
4. Select and adjust each item in order to obtain the optimum image.

See Note on page 23

Adjustment	Set	Range
VERT, AMPL	Adj.	00 - 63
VER, BREATH	00	00 - 63
PAR, AMPL	00	00 - 63
PAR, TILT	32	00 - 63
V, LINEAR	Adj.	00 - 63
CORN, CORR	Adj.	00 - 63
V, CENTRE	Adj.	00 - 63
V, POSITION	42	00 - 63
H, CENTRE	Adj.	00 - 63

**VERT, AMPL****V, LINEAR****V, CENTRE****H, CENTRE****H, SIZE**

Fit the link as required to obtain the correct horizontal picture size. Remove the link if the H, SIZE is too large.

### 4-3. BE-4 SELF DIAGNOSTIC SOFTWARE

The identification of errors within the BE-4 chassis is triggered in 1 of 2 ways :- 1: Bus busy or 2: Device failure to respond to I<sup>2</sup>C. In the event of one of these situations arising the software will first try to release the Bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each relevant device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED by a Series of flashes which must be counted (See Table 1)., on fatal errors are reported with this method.

If a fatal error is found, the set will simply stay in whichever state it was when the error occurred, but if a non fatal error occurs the set will try to continue to operate.

**Table 1**

No of Flashes	Meaning
2	IC301 not acknowledging I <sup>2</sup> C transmission, NVM OK.
3	IC301 FAULT (Not OK) - flags
4	IC301 - No H Flyback
5	IC301 - Stack Overflow.
6	Overvoltage / Overcurrent Protection (Pin 52) high.
7	IC002 not acknowledging I <sup>2</sup> C transmission, IC301 OK.
8	IC002 and IC301 - No I <sup>2</sup> C acknowledgment.
9	General I <sup>2</sup> C Error (SDA or SCL being held low) (IC301, IC001, IC002, CN001)

Flash Timing Example : e.g. error number 3

Stby LED



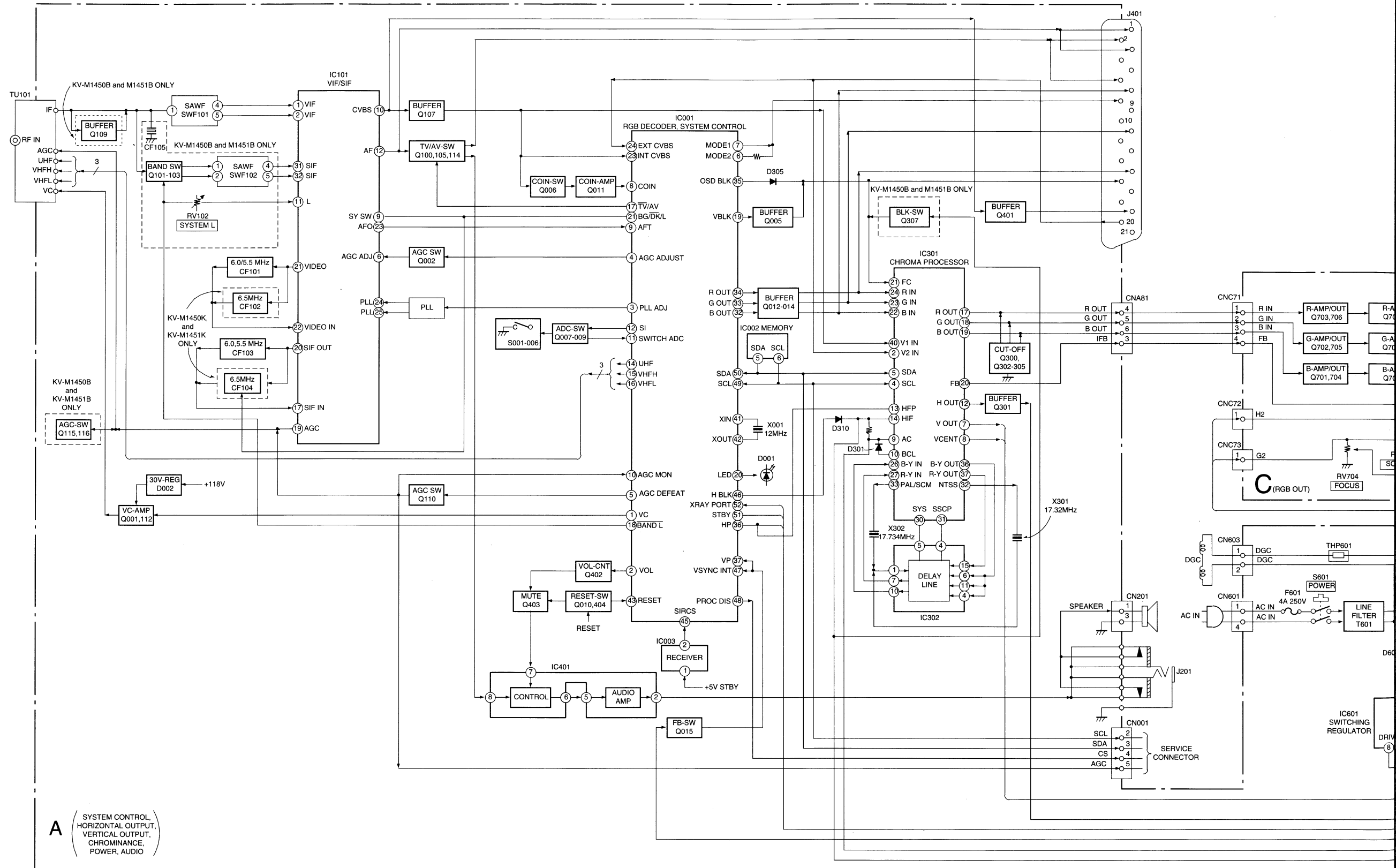
**Note :** Deflection System Adjustments should not be carried out whilst using an NTSC (60Hz) signal, or if the signal is unlocked.

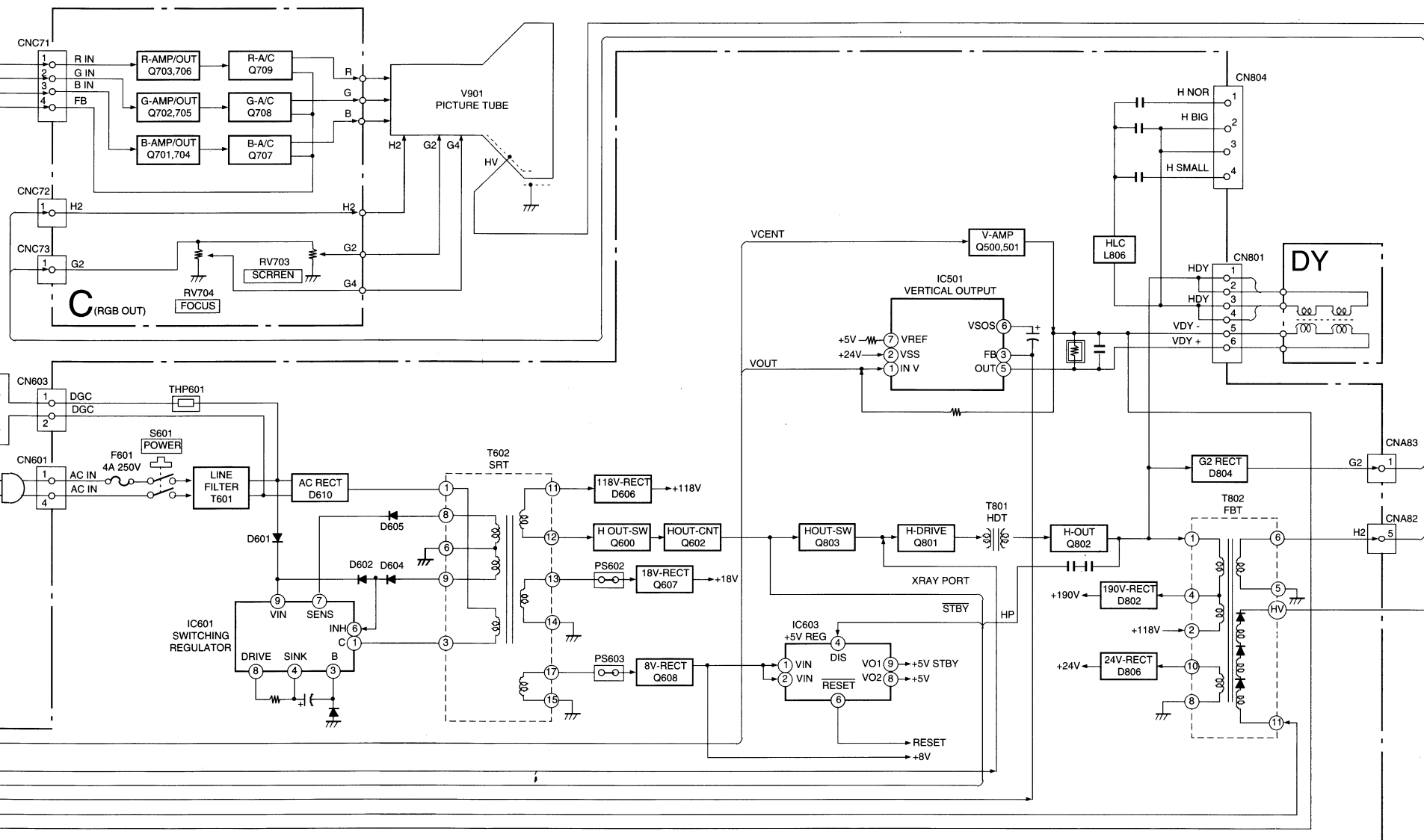
MEMO

Lined area for writing the memo.

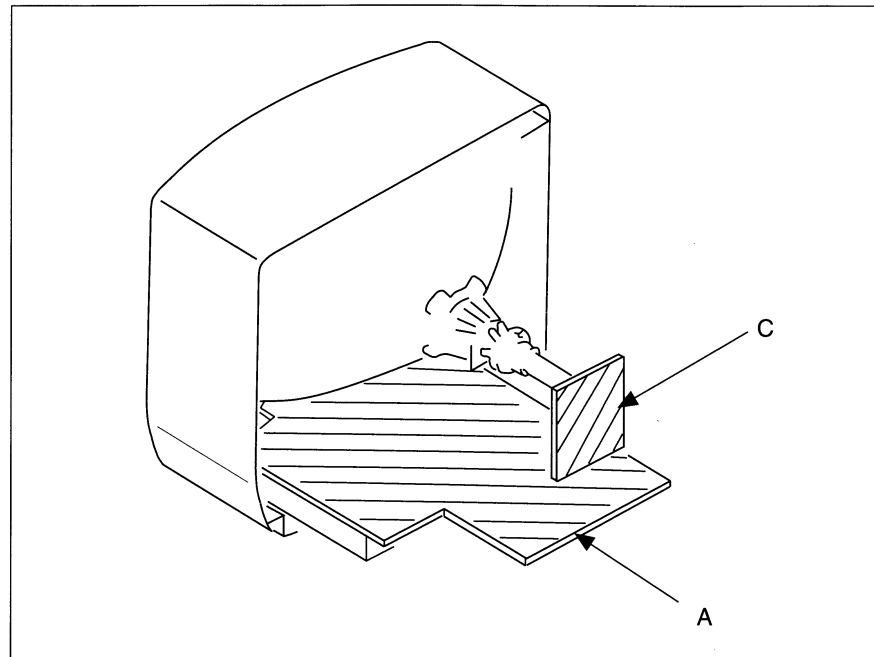
# SECTION 5 DIAGRAMS

## 5-1. BLOCK DIAGRAM





## 5-2. CIRCUIT BOARDS LOCATION



## 5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

## Note :

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$
- 50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
- $k = 1000$ ,  $M = 1000K$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm  
Rating electrical power  $\frac{1}{4}$  W

- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth - ground.
- : earth - chassis.
- : no mounted.

**Note :** The components identified by shading and marked are critical for safety. Replace only with the part number specified.

**Note :** Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: X	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOlar
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a colour-bar signal input.
- Readings are taken with 10M digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

## — A BOARD —

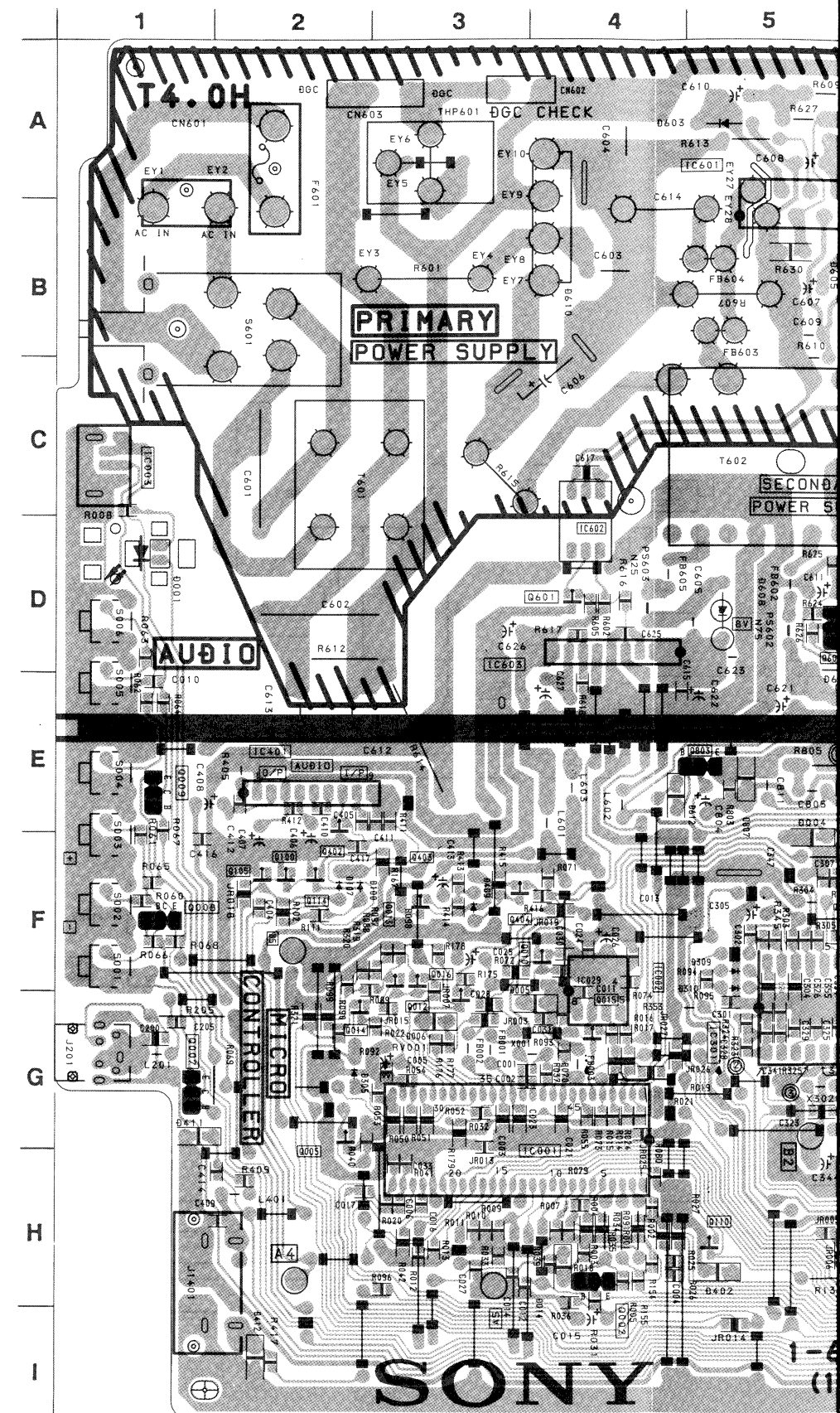
IC			
IC001	H-4	Q301	F-6
IC002	G-4	Q302	G-7
IC003	C-1	Q303	G-7
IC101	G-10	Q304	F-7
IC301	G-5	Q305	G-7
IC302	H-7	Q306	G-8
IC401	E-2	Q307	F-12
IC501	D-11	Q401	H-10
IC601	A-5	Q402	F-2
IC603	E-3	Q403	F-3
		Q404	F-4
		Q500	D-12
		Q501	E-12
		Q600	D-6
		Q602	D-5
		Q801	E-6
		Q802	D-8
		Q803	E-5
TRANSISTOR			
Q001	H-8	D001	D-1
Q002	I-4	D002	F-8
Q005	H-2	D004	F-5
Q006	H-9	D005	G-4
Q007	G-1	D014	I-4
Q008	F-1	D100	F-3
Q009	E-1	D102	G-11
Q010	F-4	D104	G-11
Q011	H-8	D105	F-8
Q012	G-3	D106	F-8
Q013	F-3	D107	F-2
Q014	G-2	D109	F-9
Q015	G-4	D301	F-6
Q100	F-2	D302	F-7
Q101	G-11	D305	G-2
Q102	G-11	D307	G-11
Q103	G-11	D308	E-12
Q105	F-2	D310	G-5
Q107	H-9	D401	H-12
Q109	G-10	D402	H-5
Q111	G-8		
Q112	F-12		
Q113	G-9		
Q114	F-2		
Q115	F-10		
Q116	F-9		
Q300	F-7		
		DIODE	
		D001	D-1
		D002	F-8
		D004	F-5
		D005	G-4
		D014	I-4
		D100	F-3
		D102	G-11
		D104	G-11
		D105	F-8
		D106	F-8
		D107	F-2
		D109	F-9
		D301	F-6
		D302	F-7
		D305	G-2
		D307	G-11
		D308	E-12
		D310	G-5
		D401	H-12
		D402	H-5
		VARIABLE RESISTOR	
		RV102	H-10

- Mark : M1450B and M1451B only
- Mark : M1450K and M1451K only

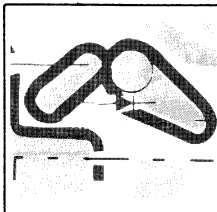
A

SYSTEM CONTROL, HORIZONTAL OUTPUT,  
VERTICAL OUTPUT, CHROMINANCE,  
POWER, AUDIO

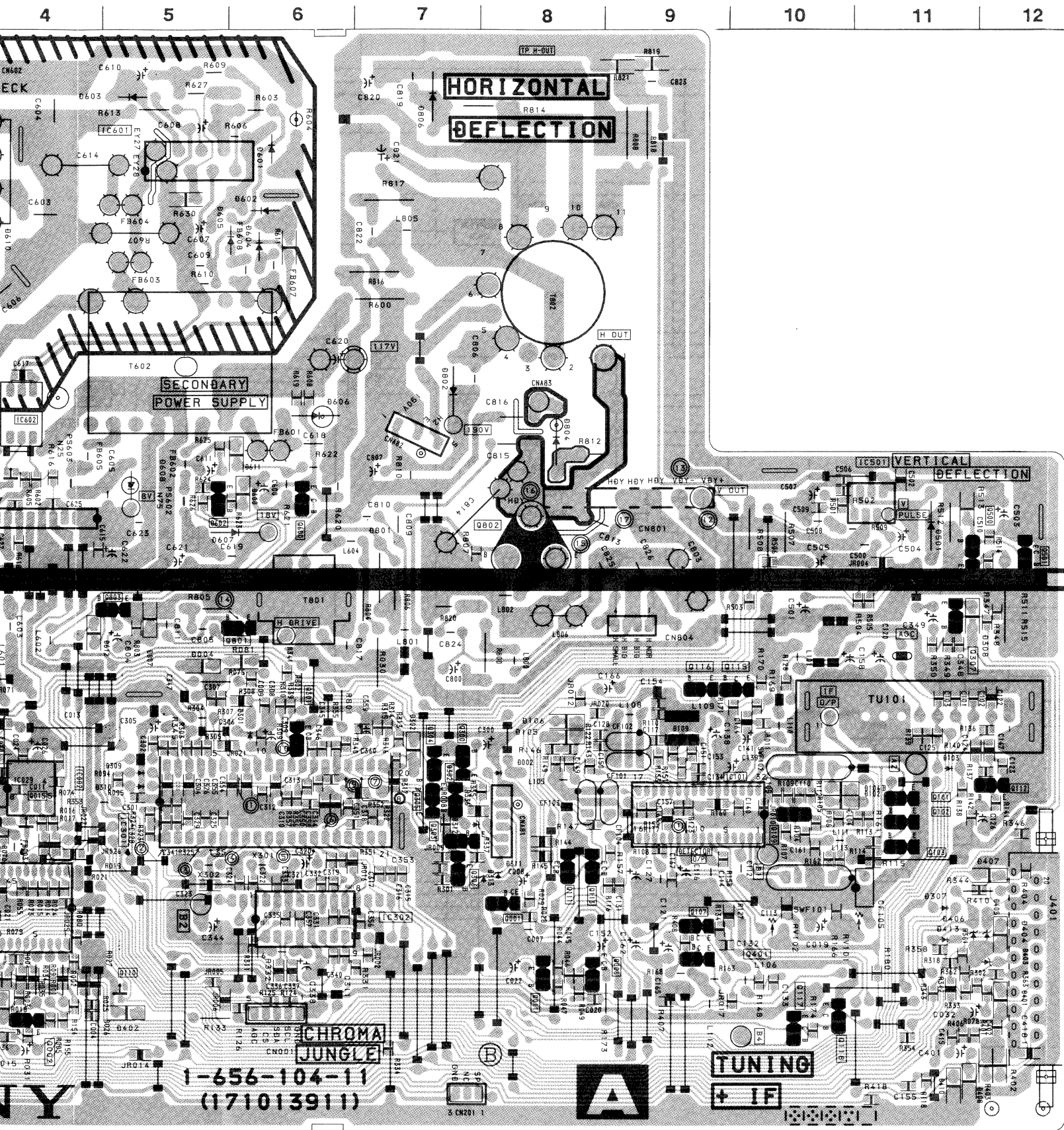
## — A BOARD —







**NOTE:**  
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

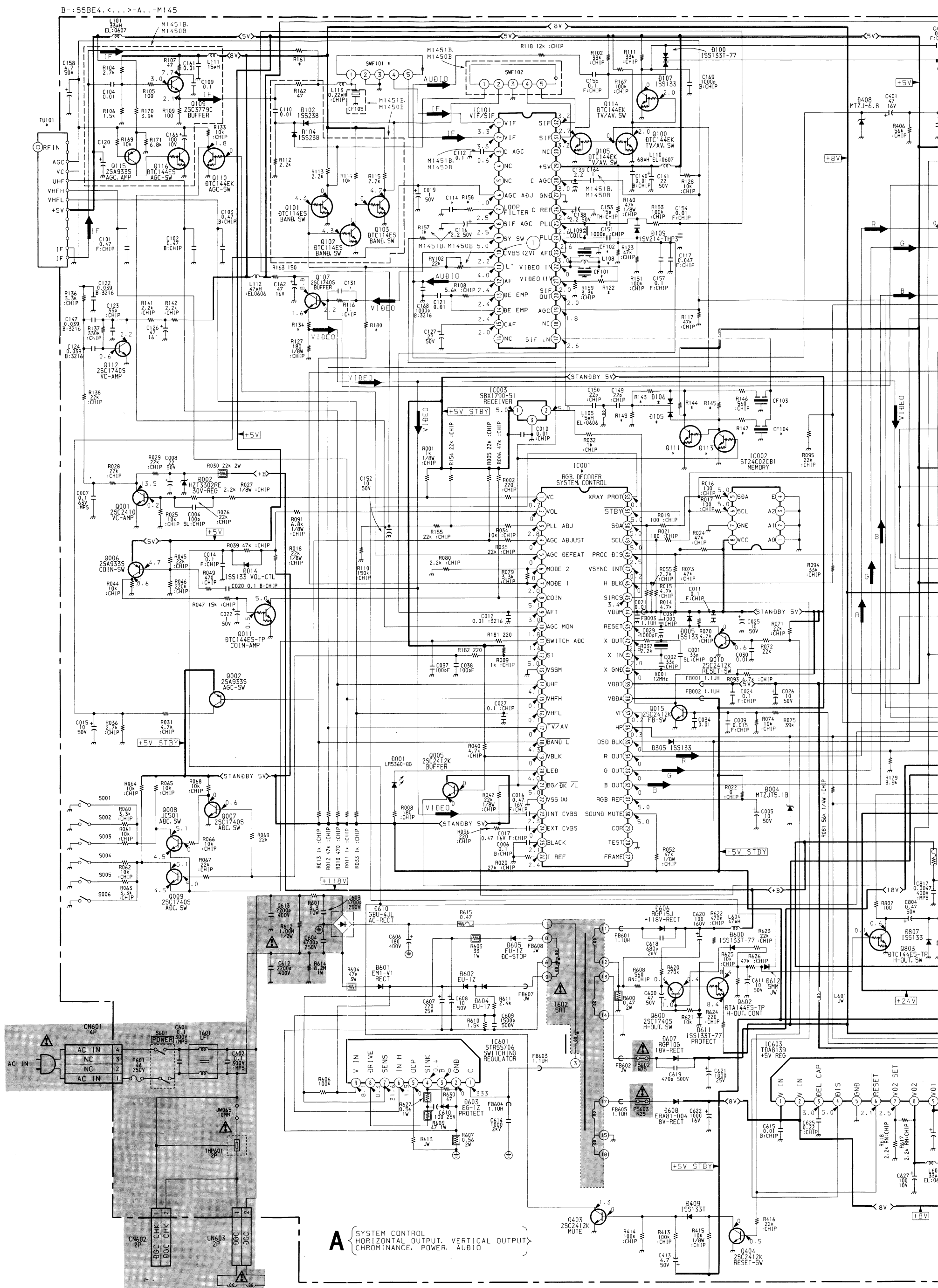


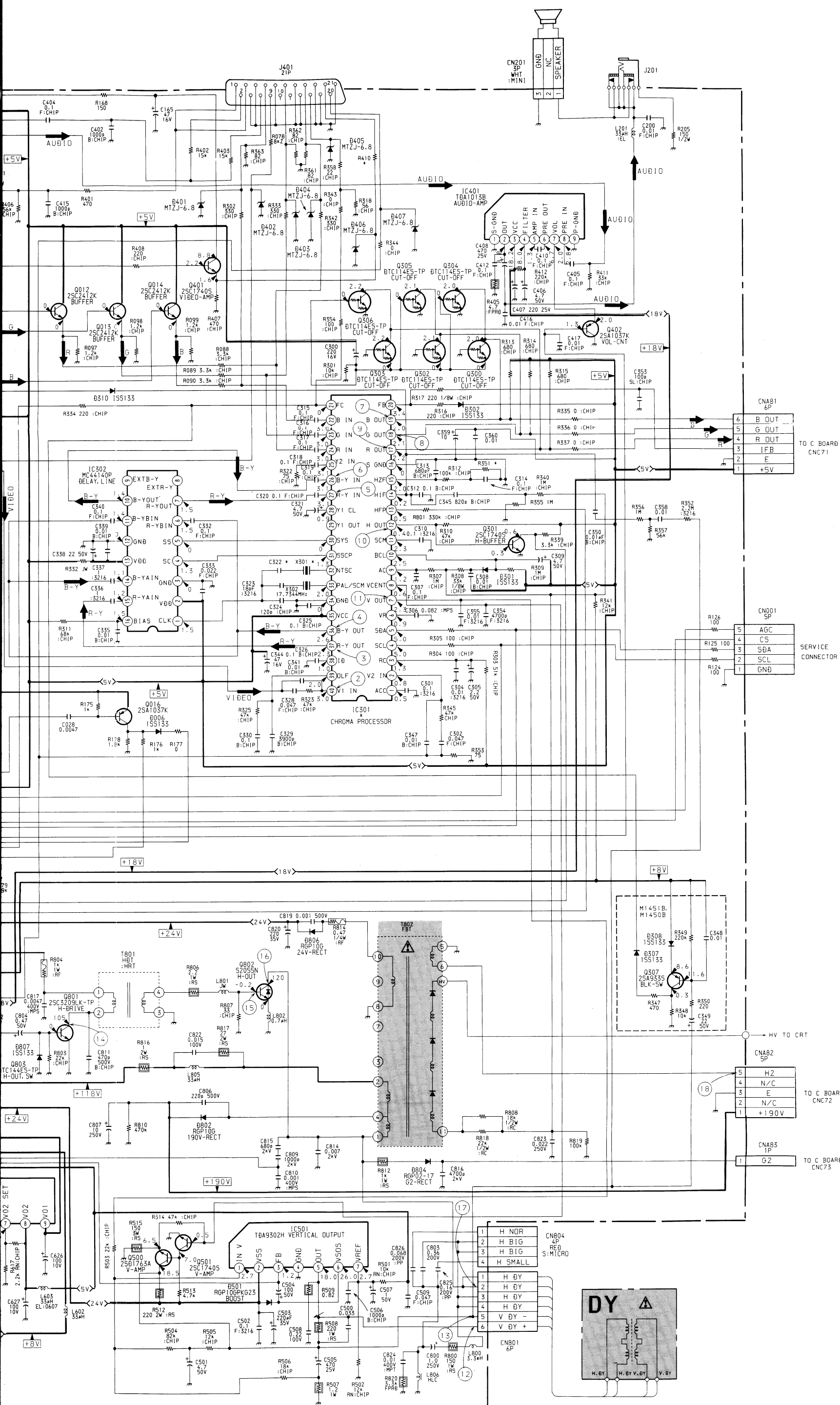
**A BOARD \* MARK**

Model	M1450A	M1451A	M1450B	M1451B	M1450D	M1451D
Ref. No.						
C114	0.22MF	0.22MF	0.1MF	0.1MF	0.22MF	0.22MF
C120	470MF	470MF	220MF	220MF	220MF	220MF
C131	-	-	-	-	-	-
C322	-	-	-	-	-	-
CF101	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 6.5 MHz	5.5 / 6.5 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz
CF102	-	-	-	-	-	-
CF103	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz
CF104	-	-	-	-	-	-
D105	-	-	-	-	-	-
D106	-	-	-	-	-	-
IC001	SAA5288ZP/014	SAA5290ZP/014	SAA5288ZP/014	SAA5290ZP/014	SAA5288ZP/014	SAA5290ZP/014
IC101	TDA9806	TDA9806	TDA9806	TDA9812	TDA9806	TDA9806
IC301	MC44007P	MC44007P	MC44002P	MC44002P	MC44002P	MC44002P
L108	8.2 UH	8.2 UH	8.2 UH	8.2 UH	8.2 UH	8.2 UH
L113	0.22UH	0.22UH	0.22UH	0.22UH	0.22UH	0.22UH
Q111	-	-	-	-	-	-
Q113	-	-	-	-	-	-
R122	150	150	150	150	150	150
R134	180	180	180	180	180	180
R143	0	0	0	0	0	0
R144	-	-	-	-	-	-
R145	-	-	-	-	-	-
R147	-	-	-	-	-	-
R149	-	-	-	-	-	-
R158	390	390	180	180	390	390
R161	0	0	-	-	0	0
R180	-	-	1K	1K	-	-
R351	-	-	8.2M	8.2M	8.2M	8.2M
R410	75	75	75	75	75	75
SWF101	OPWG1963	OPWG1963	OFWK3953	OFWK3953	OPWG1963	OPWG1963
TU101	TELELX001A	TELELX001A	TELELX002A	TELELX002A	BT-AC401	BT-AC401
X301	-	-	-	-	-	-

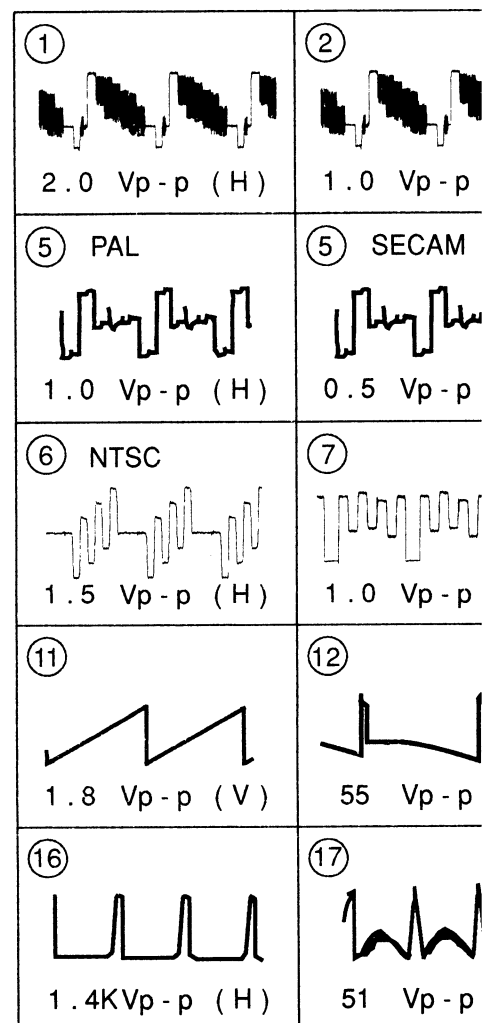
Model	M1450E	M1451E	M1450K	M1451K	M1450U	M1451U
Ref. No.						
C114	0.22MF	0.22MF	0.22MF	0.22MF	0.22MF	0.22MF
C120	220MF	220MF	220MF	220MF	220MF	220MF
C131	-	-	0.001	0.001	-	-
C322	-	-	18PF	18PF	-	-
CF101	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz	6.0 / 6.5 MHz	6.0 / 6.5 MHz
CF102	-	-	6.5 MHz	6.5 MHz	-	-
CF103	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	6.0 MHz	6.0 MHz
CF104	-	-	6.5 MHz	6.5 MHz	-	-
D105	-	-	1SS133T-77	1SS133T-77	-	-
D106	-	-	1SS133T-77	1SS133T-77	-	-
IC001	SAA5288ZP/014	SAA5290ZP/014	SAA5288ZP/014	SAA5290ZP/014	SAA5288ZP/014	SAA5290ZP/014
IC101	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806
IC301	MC44007P	MC44007P	MC44002P	MC44002P	MC44007P	MC44007P
L108	8.2 UH	8.2 UH	4.7 UH	4.7 UH	8.2 UH	8.2 UH
L113	0.22UH	0.22UH	0.22UH	0.22UH	0	0
Q111	-	-	DTC144ES	DTC144ES	-	-
Q113	-	-	DTC144ES	DTC144ES	-	-
R122	150	150	100	100	150	150
R134	180	180	180	180	150	150
R143	0	0	-	-	0	0
R144	-	-	2.2 K	2.2 K	-	-
R145	-	-	2.2 K	2.2 K	-	-
R147	-	-	-	560	-	-
R149	-	-	2.2 K	2.2 K	-	-
R158	390	390	390	390	390	390
R161	0	0	0	0	0	0
R180	-	-	-	-	-	-
R351	-	-	8.2M	8.2M	-	-
R410	75	75	75	75	68	68
SWF101	OPWG1963	OPWG1963	OFWK2950	OFWK2950	OFWJ1952M	OFWJ1952M
TU101	BT-AC401	BT-AC401	U1315	U1315	U1343	BT-AU601
X301	-	-	14.32MHz	14.32MHz	-	-



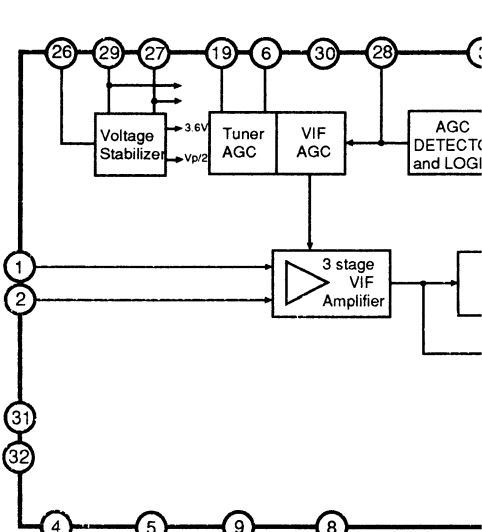




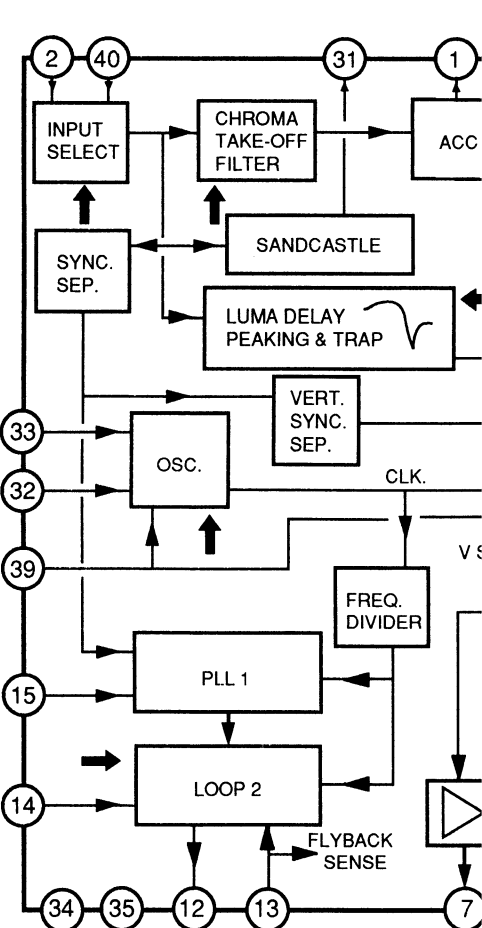
# WAVEFORMS A BOARD



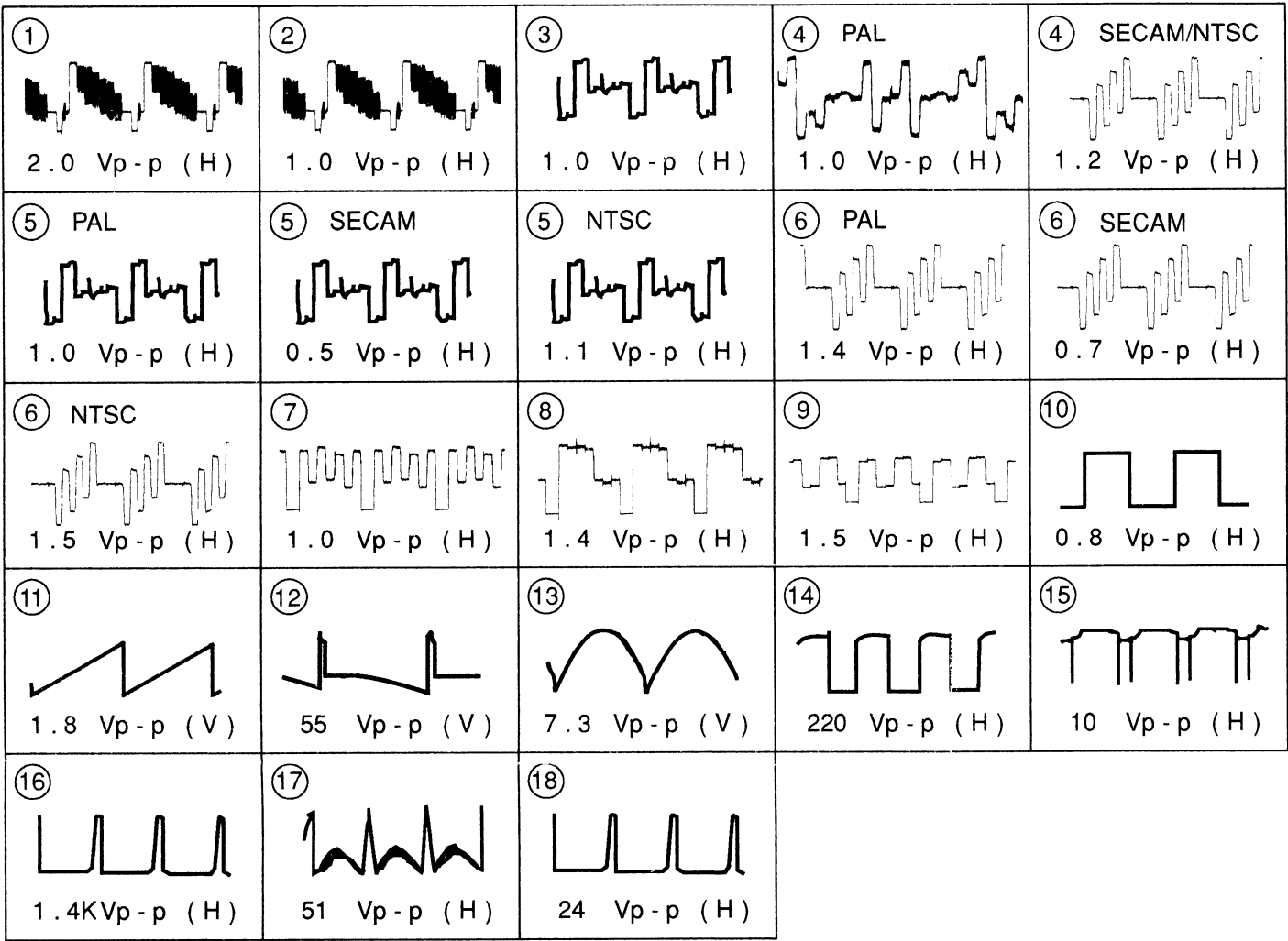
## A BOARD IC101 TDA9806/TDA9812



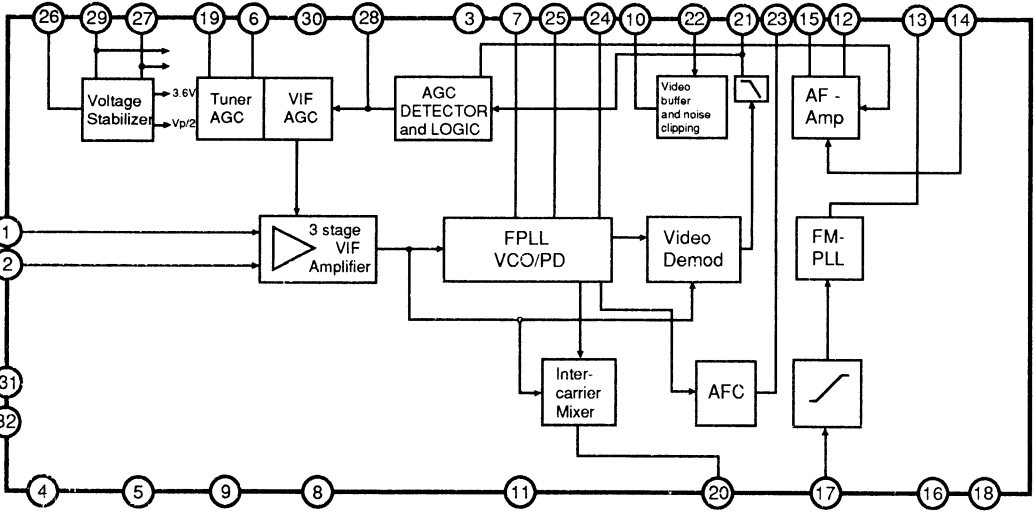
## A BOARD IC301 MC4402P/MC4400T



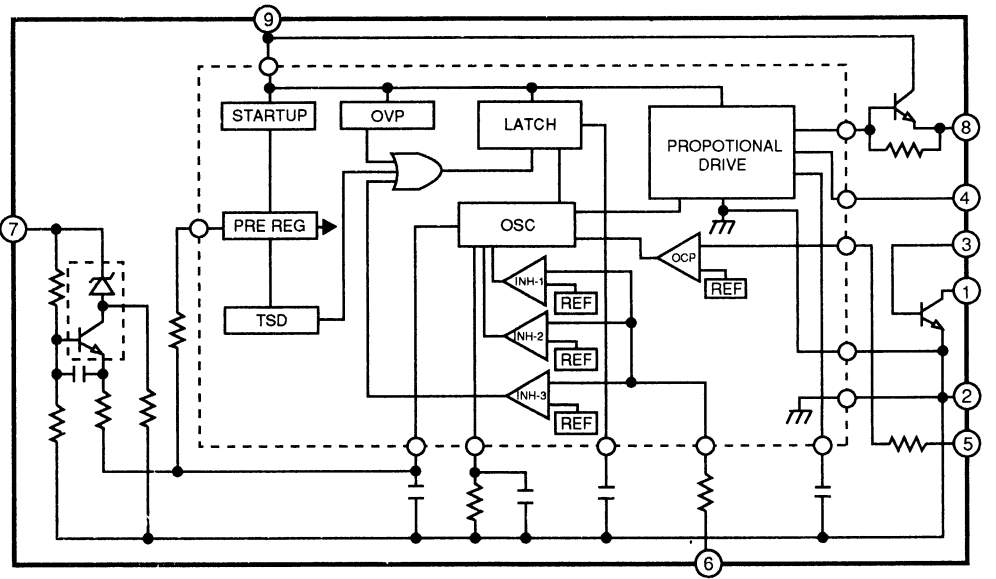
# WAVEFORMS A BOARD



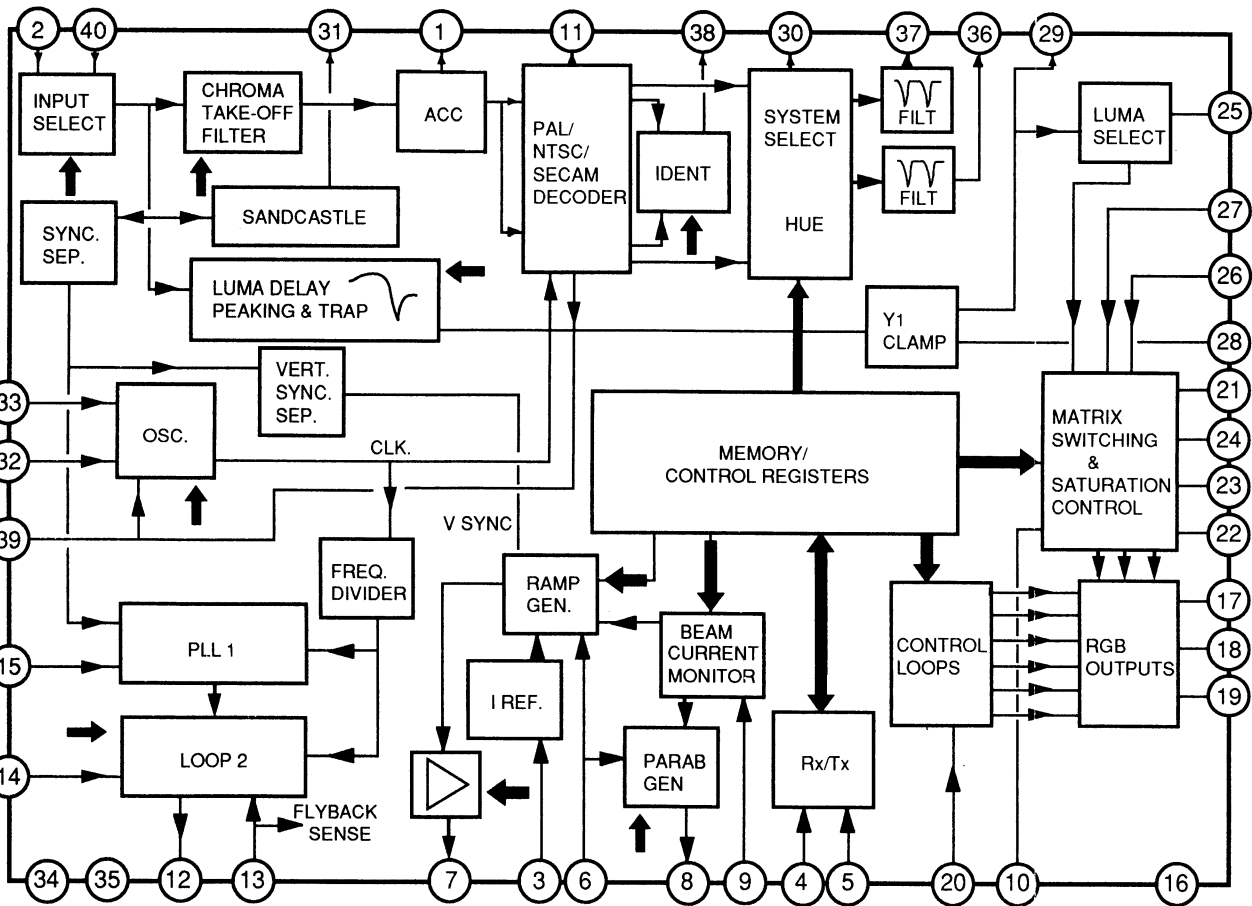
## A BOARD IC101 TDA9806/TDA9812

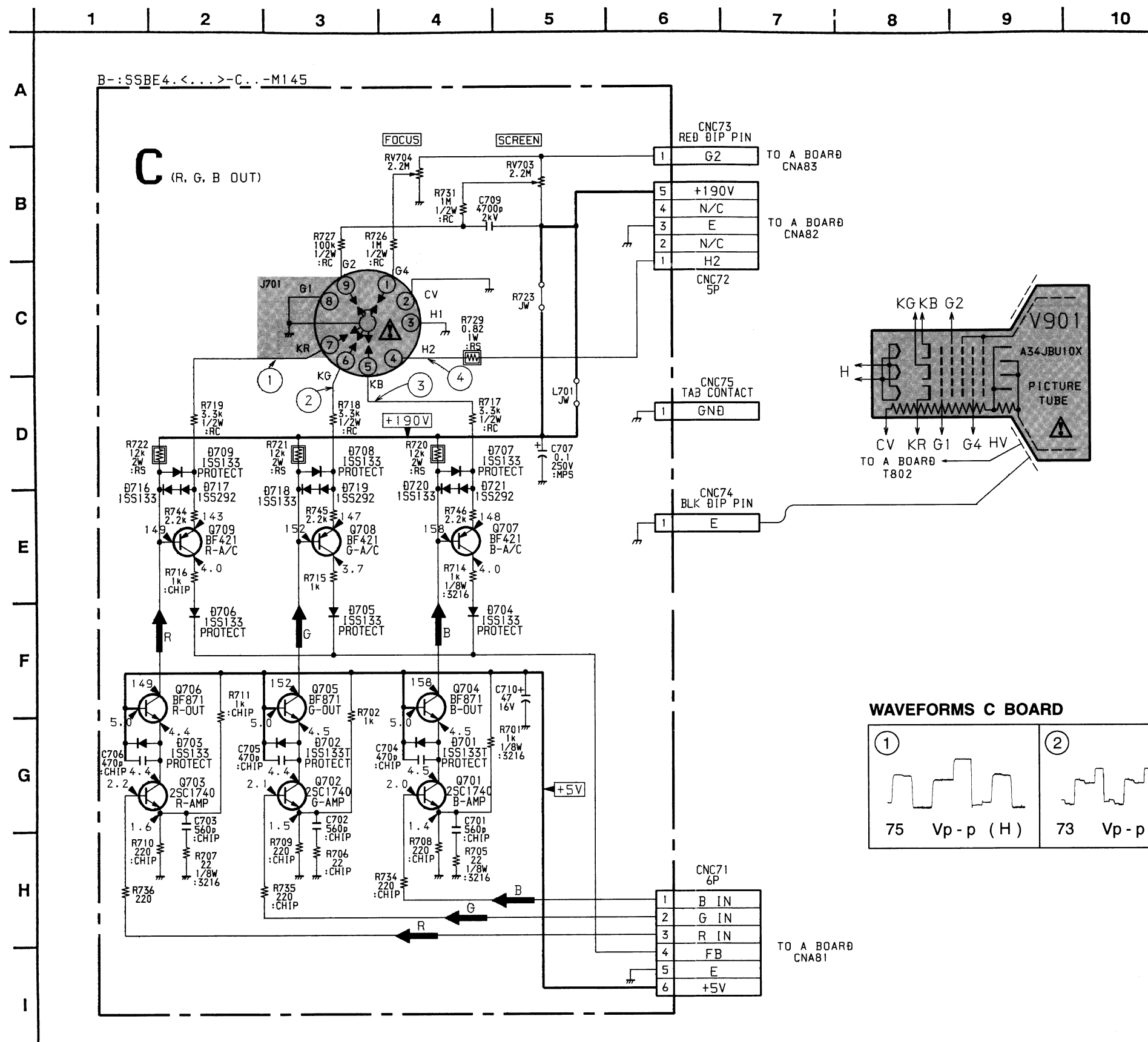
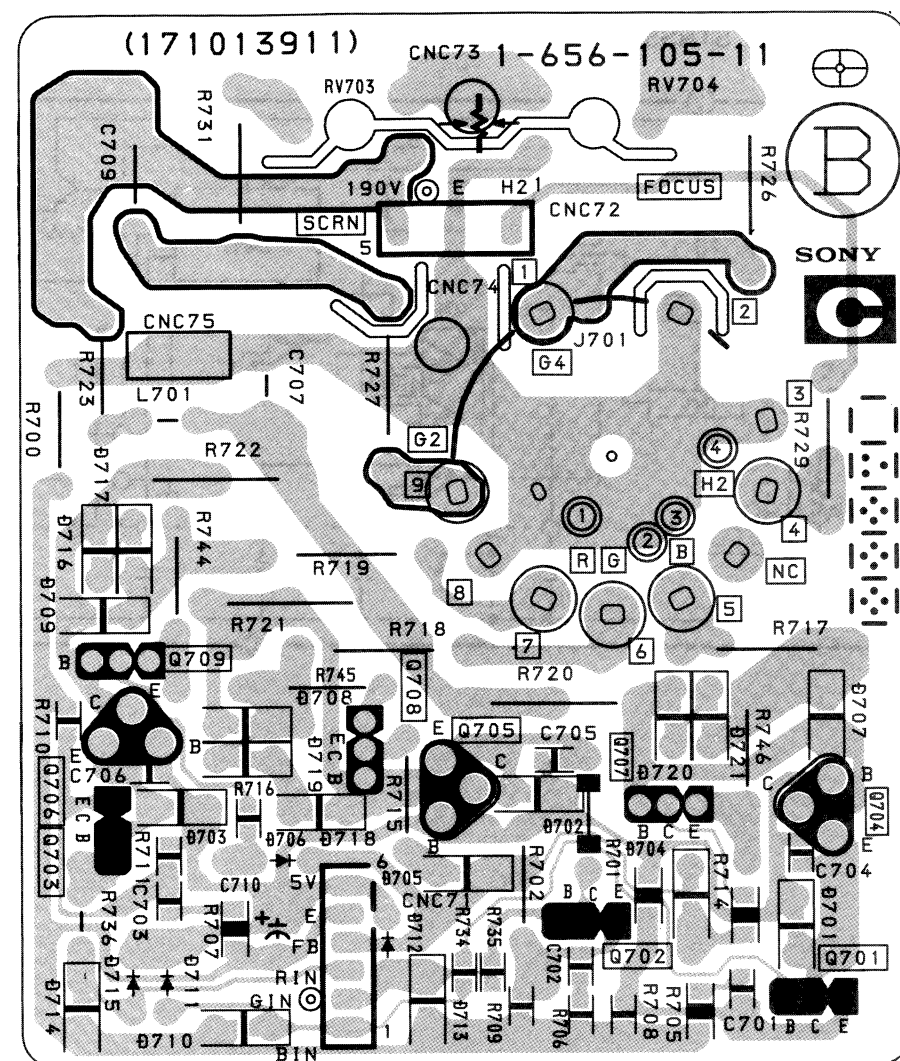


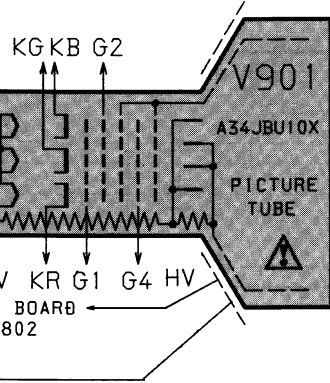
## A BOARD IC601 STRS5706



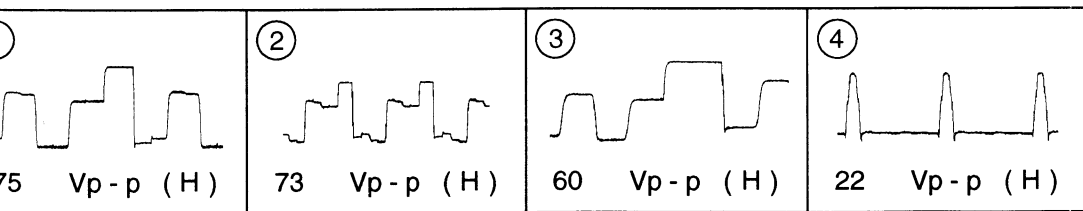
## A BOARD IC301 MC4402P/MC44007P



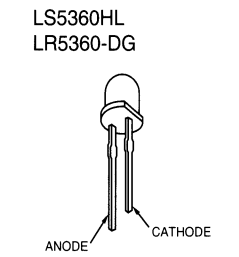
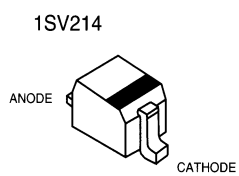
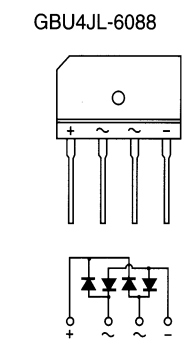
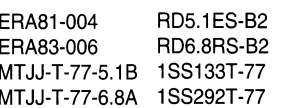
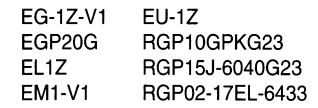
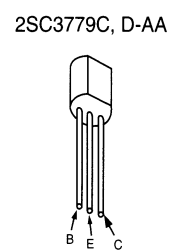
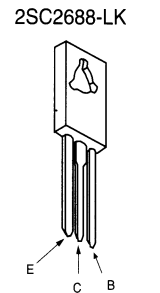
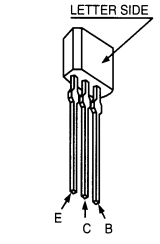
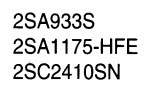
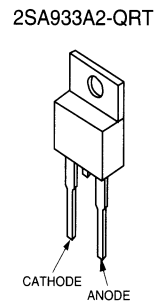
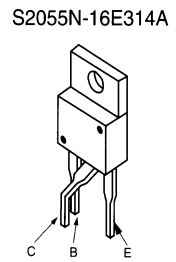
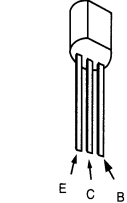
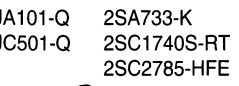
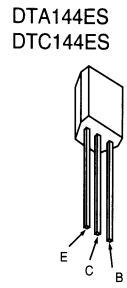
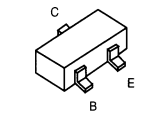
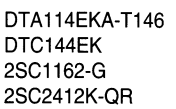
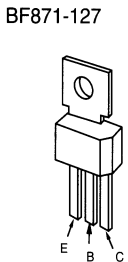
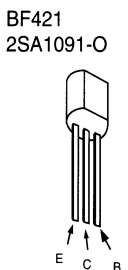
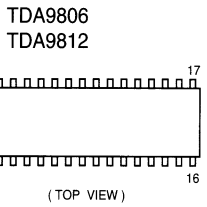
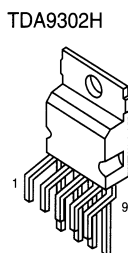
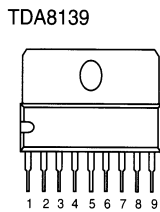
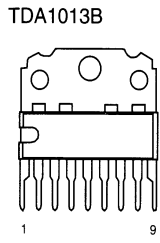
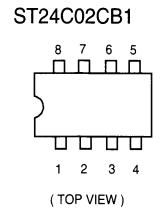
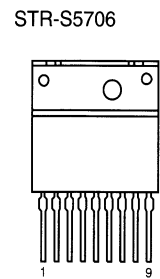
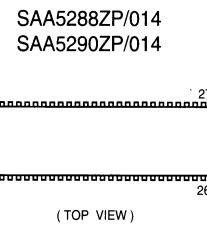
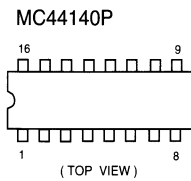
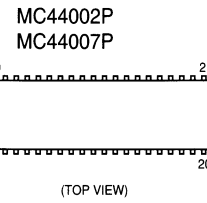
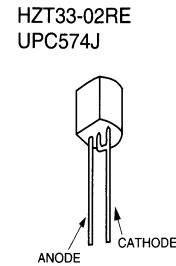




### WAVEFORMS C BOARD



## 5-4. SEMICONDUCTORS

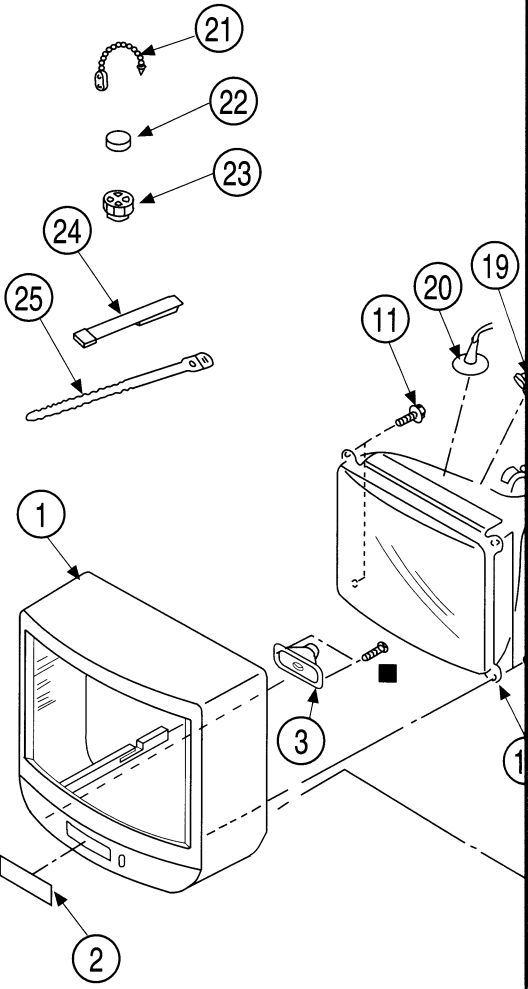


### NOTE :

- Items with no part number and no description are not stocked because are seldom required for routine service.
- The construction parts of an assembled part are indicated with a call number in the remarks column.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

## 6-1. CHASSIS AND PICTURE TUBE

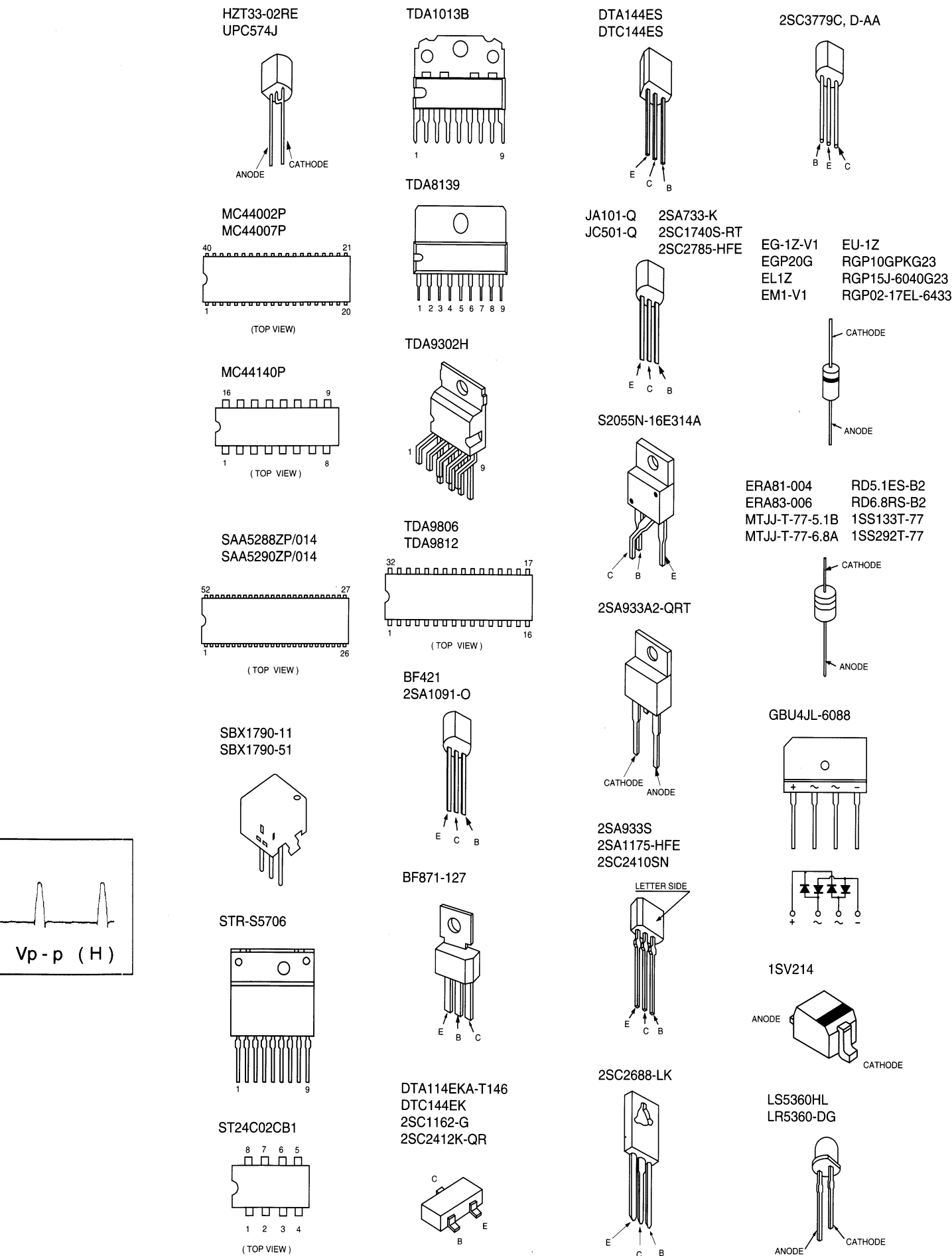
■ : +BVTP SCREW 4x16 7-685-663-79



REF NO	PART NO	DESCRIPTION	REMARKS
1	4-203-015-51	BEZNET ASSY	
2	4-203-014-31	WINDOW, ORNAMENTAL (KV-M1450A/M1450B/M1450D/M1450E)	
	4-203-014-21	WINDOW, ORNAMENTAL (KV-M1451A/M1451B/M1451D/M1451E)	
	4-203-014-11	WINDOW, ORNAMENTAL (KV-M1450K/M1450L/M1450M/M1450N)	
	4-203-014-01	WINDOW, ORNAMENTAL (KV-M1451K/M1451L/M1451M/M1451N)	
3	1-504-899-11	SPEAKER (9x5CM)	
4	4-203-020-21	BUTTON, POWER	



5-4. SEMICONDUCTORS



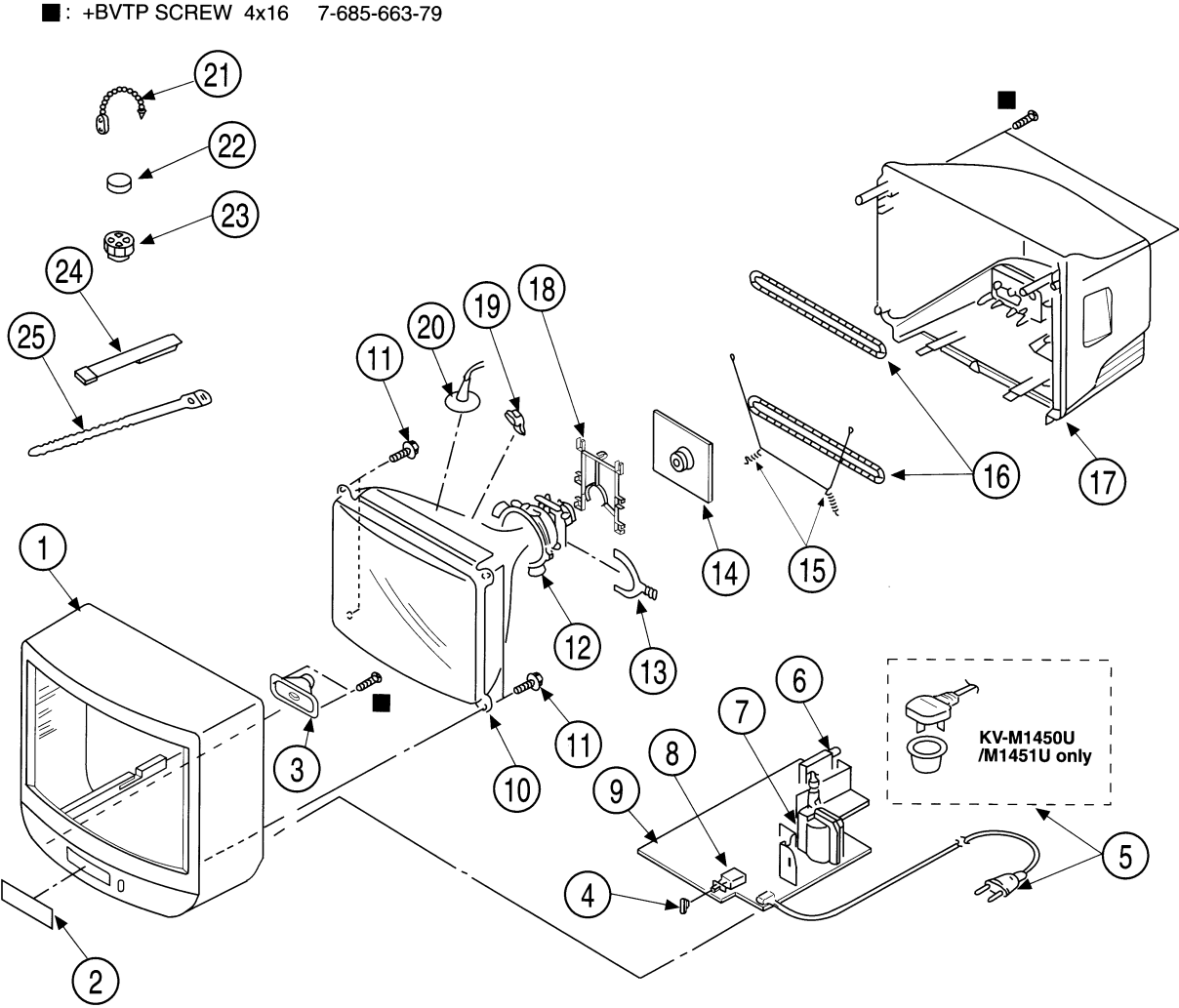
SECTION 6  
EXPLODED VIEWS

- NOTE :**
- Items with no part number and no description are not stocked because they are seldom required for routine service.
  - The construction parts of an assembled part are indicated with a collation number in the remarks column.
  - Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked **A** are critical for safety. Replace only with the part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS AND PICTURE TUBE



REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
1	4-203-015-51	BEZNET ASSY		5	▲ 1-690-270-11	CORD, POWER (WITH CONNECTOR)	
2	4-203-014-31	WINDOW, ORNAMENTAL (KV-M1450A/M1450B/M1450D/M1450E)				2.5A/250V (KV-M1450A/M1451A/M1450B/M1451B/M1450E/M1451E)	
	4-203-014-21	WINDOW, ORNAMENTAL (KV-M1451A/M1451B/M1451D/M1451E)		▲ 1-690-270-21	CORD, POWER (WITH CONNECTOR)		
	4-203-014-11	WINDOW, ORNAMENTAL (KV-M1450K/M1450U)				2.5A/250V (KV-M1450K/M1451K)	
	4-203-014-01	WINDOW, ORNAMENTAL (KV-M1451K/M1451U)		▲ 1-590-460-11	CORD, POWER (WITH CONNECTOR)		
3	1-504-899-11	SPEAKER (9x5CM)				7.0A/250V (KV-M1450D/M1451D)	
4	4-203-020-21	BUTTON, POWER		▲ 1-590-762-11	CORD, POWER (WITH PLUG)		
						2.5A/250V (KV-M1450U/M1451U)	

The components identified by shading and marked **A** are critical for safety.

Replace only with the part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
6	1-693-303-11	TUNER (TELELX001A) (KV-M1450A/M1451A)					
	1-693-310-11	TUNER (TELELX002A) (KV-M1450B/M1451B)					
	8-598-331-00	TUNER (BT-AC401)					
		(KV-M1450D/M1451D/M1450E/M1451E)					
	1-693-302-11	TUNER (U1315) (KV-M1450K/M1451K)					
	1-693-301-11	TUNER (U1343) (KV-M1450U)					
	8-598-333-00	TUNER (BT-AU601) (KV-M1451U)					
7	<b>A</b> 1-453-186-11	TRANSFORMER ASSY, FLYBACK					
		(NX-1730/U2A4)					
8	<b>A</b> 1-571-433-21	SWITCH, PUSH (AC POWER)					
9	*A-1666-014-A	A AND C BOARD, COMPLETE (KV-M1450A)					
	*A-1666-013-A	A AND C BOARD, COMPLETE (KV-M1451A)					
	*A-1666-017-A	A AND C BOARD, COMPLETE (KV-M1450B)					
	*A-1666-018-A	A AND C BOARD, COMPLETE (KV-M1451B)					
	*A-1666-027-A	A AND C BOARD, COMPLETE (KV-M1450D)					
	*A-1666-026-A	A AND C BOARD, COMPLETE (KV-M1451D)					
	*A-1666-016-A	A AND C BOARD, COMPLETE (KV-M1450E)					
	*A-1666-015-A	A AND C BOARD, COMPLETE (KV-M1451E)					
	*A-1666-009-A	A AND C BOARD, COMPLETE (KV-M1450K)					
	*A-1666-008-A	A AND C BOARD, COMPLETE (KV-M1451K)					
	*A-1666-006-A	A AND C BOARD, COMPLETE (KV-M1450U)					
	*A-1666-011-A	A AND C BOARD, COMPLETE (KV-M1451U)					
10	<b>A</b> 8-735-561-05	PICTURE TUBE (SD-125) (A343BU10X)					
11	4-036-190-01	SCREW (5), TAPPING					
12	<b>A</b> 8-451-249-84	DEFLECTION YOKE (Y14NDA2)					
13	1-452-277-13	MAGNET, BMC					
14	*A-1638-064-A	C BOARD, COMPLETE					
		(KV-M1450A/M1451A/M1450B/M1451B/M1450E/M1451E)					
	*A-1638-063-A	C BOARD, COMPLETE					
		(KV-M1450D/M1451D/M1450K/M1451K/M1450U/M1451U)					
15	*4-043-738-01	SPRING, GROUND					
16	<b>A</b> 1-426-145-21	COIL, DEGAUSSING					
17	4-203-019-51	COVER (SC), REAR					
18	*4-203-097-01	HOLDER, HV					
		(KV-M1450A/M1451A/M1450B/M1451B/M1450E/M1451E)					
	*4-203-022-01	HOLDER, HV					
		(KV-M1450D/M1451D/M1450K/M1451K/M1450U/M1451U)					
19	3-704-495-01	SPACER, DY					
20	<b>A</b> 1-540-007-10	CAP ASSY, HIGH-VOLTAGE					
21	4-308-870-00	CLIP, LEAD WIRE					
22	1-452-032-00	MAGNET, DISK; 10MM Ø					
23	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø					
24	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE					
25	3-701-007-00	BAND, BINDING					

## SECTION 7

### ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

## CAPACITORS

MF : mF, PF : mmF

## COILS

MMH : mH,  $\mu$ H : mH

# A and C

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## RESISTORS

- All resistors are in ohms
- F : nonflammable

The components identified by shading and marked  $\Delta$  are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
*A-1666-014-A	A AND C BOARD, COMPLETE	(KV-M1450A)		C026	1-126-964-11	ELECT 10MF	20% 50V
	*****			C027	1-163-038-00	CERAMIC CHIP 0.1MF	25V
*A-1666-013-A	A AND C BOARD, COMPLETE	(KV-M1451A)		C028	1-163-055-00	CERAMIC CHIP 0.0047MF	10% 50V
	*****			C029	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
*A-1666-017-A	A AND C BOARD, COMPLETE	(KV-M1450B)		C030	1-164-232-11	CERAMIC CHIP 0.01MF	10% 100V
	*****			C031	1-163-009-11	CERAMIC CHIP 1000PF	5% 25V
*A-1666-018-A	A AND C BOARD, COMPLETE	(KV-M1451B)		C034	1-136-153-00	FILM 0.01MF	5% 50V
	*****			C037	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
*A-1666-027-A	A AND C BOARD, COMPLETE	(KV-M1450D)		C038	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
	*****						
*A-1666-026-A	A AND C BOARD, COMPLETE	(KV-M1451D)		C101	1-164-005-11	CERAMIC CHIP 0.47MF	16V
	*****			C102	1-164-005-11	CERAMIC CHIP 0.47MF	16V
*A-1666-016-A	A AND C BOARD, COMPLETE	(KV-M1450E)		C103	1-164-005-11	CERAMIC CHIP 0.47MF	16V
	*****			C104	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
*A-1666-015-A	A AND C BOARD, COMPLETE	(KV-M1451E)					(KV-M1450B/M1451B)
	*****			C109	1-163-038-00	CERAMIC CHIP 0.1MF	25V
*A-1666-009-A	A AND C BOARD, COMPLETE	(KV-M1450K)					(KV-M1450B/M1451B)
	*****			C110	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
*A-1666-008-A	A AND C BOARD, COMPLETE	(KV-M1451K)					(KV-M1450B/M1451B)
	*****			C112	1-137-399-11	FILM 0.1MF	5% 50V
*A-1666-006-A	A AND C BOARD, COMPLETE	(KV-M1450U)					(KV-M1450B/M1451B)
	*****			C114	1-136-169-00	FILM 0.22MF	5% 50V
*A-1666-011-A	A AND C BOARD, COMPLETE	(KV-M1451U)					(KV-M1450A/M1451A/M1450D/M1451D/M1450E/M1451E/M1450K/M1451K/M1450U/M1451U)
	*****				1-136-165-00	FILM 0.1MF	5% 50V
4-382-854-11	SCREW (M3X10), P, SW (+)						(KV-M1450B/M1451B)
< CAPACITOR >				C116	1-124-925-11	ELECT 2.2MF	20% 50V
C001	1-163-105-00	CERAMIC CHIP 33PF	5% 50V				(KV-M1450B/M1451B)
C002	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C117	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C004	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C120	1-126-925-11	ELECT 470MF	20% 10V
C005	1-126-964-11	ELECT 10MF	20% 50V				(KV-M1450A/M1451A)
C006	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V		1-126-923-11	ELECT 220MF	20% 10V
							(KV-M1450B/M1451B/M1450D/M1451D/M1450E/M1451E/M1450K/M1451K/M1450U/M1451U)
C007	1-130-777-00	FILM 0.1MF	5% 63V	C121	1-136-153-00	FILM 0.01MF	5% 50V
C008	1-126-965-11	ELECT 22MF	20% 50V	C122	1-164-665-11	CERAMIC CHIP 0.039MF	10% 50V
C009	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V	C123	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C010	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C124	1-164-665-11	CERAMIC CHIP 0.039MF	10% 50V
C011	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C126	1-126-967-11	ELECT 47MF	20% 16V
C012	1-163-031-91	CERAMIC CHIP 10000PF	50V	C127	1-126-965-11	ELECT 22MF	20% 50V
C014	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C131	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C015	1-126-964-11	ELECT 10MF	20% 50V				(KV-M1450K/M1451K)
C016	1-164-005-11	CERAMIC CHIP 0.47MF	16V	C138	1-124-925-11	ELECT 2.2MF	20% 50V
C017	1-164-005-11	CERAMIC CHIP 0.47MF	16V	C139	1-124-925-11	ELECT 2.2MF	20% 50V
C019	1-124-903-11	ELECT 1MF	20% 50V	C140	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C020	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C141	1-126-965-11	ELECT 22MF	20% 50V
C021	1-163-059-00	CERAMIC CHIP 0.01MF	50V				
C022	1-124-903-11	ELECT 1MF	20% 50V				
C024	1-163-038-00	CERAMIC CHIP 0.1MF	25V				
C025	1-126-964-11	ELECT 10MF	20% 50V				



The components identified by shading and marked **A** are critical for safety.  
Replace only with the part number specified.


Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.


KV-M145

**A and C**


REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C147	1-164-665-11	CERAMIC CHIP 0.039MF	10% 50V	C345	1-163-139-00	CERAMIC CHIP 820PF	10% 50V
C149	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	C347	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C150	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	C348	1-163-031-11	CERAMIC CHIP 0.01MF	50V
						(KV-M1450B/M1451B)	
C151	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C349	1-126-965-11	ELECT 22MF	20% 50V
C152	1-126-964-11	ELECT 10MF	20% 50V			(KV-M1450B/M1451B)	
C153	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	C350	1-164-232-11	CERAMIC CHIP 0.01MF	10% 100V
C154	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C353	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C155	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C354	1-163-055-00	CERAMIC CHIP 0.0047MF	10% 50V
C157	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C355	1-163-059-00	CERAMIC CHIP 0.01MF	50V
C158	1-124-927-11	ELECT 4.7MF	20% 50V	C358	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C161	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C359	1-126-964-11	ELECT 10MF	20% 50V
		(KV-M1450B/M1451B)		C360	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C162	1-126-967-11	ELECT 47MF	20% 16V	C401	1-126-967-11	ELECT 47MF	20% 16V
C164	1-162-638-11	CERAMIC CHIP 1MF	16V	C402	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
		(KV-M1450B/M1451B)		C404	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C165	1-126-967-11	ELECT 47MF	20% 16V	C405	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C166	1-126-933-11	ELECT 100MF	20% 10V	C406	1-124-927-11	ELECT 4.7MF	20% 50V
		(KV-M1450B/M1451B)		C407	1-104-666-11	ELECT 220MF	20% 25V
C168	1-163-205-00	CERAMIC CHIP 0.001MF	10% 50V	C408	1-126-941-11	ELECT 470MF	20% 25V
C169	1-102-074-00	CERAMIC 0.001MF	10% 50V	C410	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C200	1-163-059-00	CERAMIC CHIP 0.01MF	50V	C412	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C300	1-126-934-11	ELECT 220MF	20% 16V	C413	1-124-927-11	ELECT 4.7MF	20% 50V
C301	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V	C415	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C302	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C416	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C304	1-163-059-91	CERAMIC CHIP 0.01MF	10% 50V	C417	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C305	1-124-925-11	ELECT 2.2MF	20% 50V	C500	1-130-489-00	FILM 0.033MF	5% 50V
C306	1-136-164-00	FILM 0.082MF	5% 50V	C501	1-124-927-11	ELECT 4.7MF	20% 50V
C307	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C502	1-163-077-00	CERAMIC CHIP 0.1MF	50V
C308	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C503	1-107-894-11	ELECT 220MF	20% 35V
C309	1-124-927-11	ELECT 4.7MF	20% 50V	C504	1-124-122-11	ELECT 100MF	20% 50V
C310	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V	C505	1-126-941-11	ELECT 470MF	20% 25V
C312	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C506	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C313	1-163-007-91	CERAMIC CHIP 680PF	10% 50V	C507	1-124-903-11	ELECT 1MF	20% 50V
C314	1-163-077-00	CERAMIC CHIP 0.1MF	50V	C508	1-106-228-00	MYLAR 0.22MF	10% 100V
C315	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C509	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C316	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C600	1-126-967-11	ELECT 47MF	20% 50V
C317	1-163-038-00	CERAMIC CHIP 0.1MF	25V	<del>C601</del>	<del>1-136-516-12</del>	<del>FILM 0.1MF</del>	<del>20% 300V</del>
C318	1-163-038-00	CERAMIC CHIP 0.1MF	25V	<del>C602</del>	<del>1-136-516-12</del>	<del>FILM 0.1MF</del>	<del>20% 300V</del>
C319	1-163-038-00	CERAMIC CHIP 0.1MF	25V	<del>C603</del>	<del>1-161-964-91</del>	<del>CERAMIC 0.0047MF</del>	<del>250V</del>
C320	1-163-038-00	CERAMIC CHIP 0.1MF	25V	<del>C604</del>	<del>1-161-964-91</del>	<del>CERAMIC 0.0047MF</del>	<del>250V</del>
C321	1-124-927-11	ELECT 4.7MF	20% 50V	C606	1-113-473-11	ELECT (BLOCK) 180MF	20% 400V
C322	1-163-099-00	CERAMIC CHIP 18PF	5% 50V	C607	1-104-666-11	ELECT 220MF	20% 25V
		(KV-M1450K/M1451K)		C608	1-126-964-11	ELECT 10MF	20% 50V
C323	1-163-163-00	CERAMIC CHIP 18PF	5% 50V	C609	1-109-921-11	CERAMIC 0.0015MF	10% 500V
C324	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	C610	1-104-665-11	ELECT 100MF	20% 25V
C325	1-164-004-11	CERAMIC CHIP 0.1MF	10% 50V	C611	1-126-964-11	ELECT 10MF	20% 50V
C326	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	<del>C612</del>	<del>1-164-503-61</del>	<del>CERAMIC 0.0022MF</del>	<del>20% 400V</del>
C328	1-163-035-00	CERAMIC CHIP 0.047MF	50V	<del>C613</del>	<del>1-164-503-61</del>	<del>CERAMIC 0.0022MF</del>	<del>20% 400V</del>
C329	1-163-016-00	CERAMIC CHIP 0.0039MF	10% 50V	C614	1-136-538-11	FILM 0.001MF	3% 2KV
C330	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C615	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C332	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C618	1-162-116-00	CERAMIC 680PF	10% 2KV
C333	1-163-033-91	CERAMIC CHIP 0.022MF	50V	C619	1-102-228-00	CERAMIC 470PF	10% 500V
C335	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C620	1-124-347-00	ELECT 100MF	20% 160V
C336	1-162-638-11	CERAMIC CHIP 1MF	16V	C621	1-126-942-61	ELECT 1000MF	20% 25V
C337	1-162-638-11	CERAMIC CHIP 1MF	16V	C622	1-111-041-11	ELECT 0.001F	20% 16V
C338	1-126-965-11	ELECT 22MF	20% 50V	C625	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C339	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C626	1-126-933-11	ELECT 100MF	20% 16V
C340	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C627	1-126-933-11	ELECT 100MF	20% 16V
C341	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C701	1-163-135-00	CERAMIC CHIP 560PF	5% 50V
C344	1-126-967-11	ELECT 47MF	20% 16V				


## A and C

The components identified by shading and marked  are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C702	1-163-135-00	CERAMIC CHIP 560PF	5% 50V	< DIODE >			
C703	1-163-135-00	CERAMIC CHIP 560PF	5% 50V	D001	8-719-057-56	DIODE LS5360HL	
C704	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	D002	8-759-157-40	IC $\mu$ PC574J	
C705	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	D004	8-719-109-85	DIODE RD5.1ES-B2	
C706	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	D005	8-719-991-33	DIODE 1SS133T-77	
C707	1-136-189-00	FILM 0.1MF	10% 250V	D006	8-719-991-33	DIODE 1SS133T-77	
C709	1-162-114-00	CERAMIC 0.0047MF	2KV	D014	8-719-991-33	DIODE 1SS133T-77	
C710	1-126-967-11	ELECT 47MF	20% 16V	D100	8-719-991-33	DIODE 1SS133T-77	
C800	1-126-772-11	ELECT 1MF	20% 250V	D102	8-719-903-27	DIODE 1SS168 (KV-M1450B/M1451B)	
C803	1-136-106-00	FILM 0.36MF	5% 200V	D104	8-719-903-27	DIODE 1SS168 (KV-M1450B/M1451B)	
C804	1-124-902-00	ELECT 0.47MF	20% 50V	D105	8-719-991-33	DIODE 1SS133T-77 (KV-M1450K/M1451K)	
C806	1-102-244-00	CERAMIC 220PF	10% 500V	D106	8-719-991-33	DIODE 1SS133T-77 (KV-M1450K/M1451K)	
C807	1-107-652-11	ELECT 10MF	20% 250V	D107	8-719-991-33	DIODE 1SS133T-77	
C809	1-161-754-00	CERAMIC 0.001MF	10% 2KV	D109	8-719-820-71	DIODE 1SV214	
C810	1-129-702-00	FILM 0.001MF	10% 400V	D301	8-719-991-33	DIODE 1SS133T-77	
C811	1-102-228-00	CERAMIC 470PF	10% 500V	D302	8-719-991-33	DIODE 1SS133T-77	
C814	1-111-269-11	FILM 0.007MF	3% 2KV	D305	1-249-412-11	CARBON 390 5% 1/4W	
C815	1-162-116-00	CERAMIC 680PF	10% 2KV	D307	8-719-991-33	DIODE 1SS133T-77 (KV-M1450B/M1451B)	
C816	1-162-114-00	CERAMIC 0.0047MF	2KV	D308	8-719-991-33	DIODE 1SS133T-77 (KV-M1450B/M1451B)	
C817	1-136-559-11	MYLAR 0.0047MF	10% 400V	D310	8-719-991-33	DIODE 1SS133T-77	
C819	1-162-318-11	CERAMIC 0.001MF	10% 500V	D401	8-719-109-97	DIODE RD6.8ES-B2	
C820	1-126-949-11	ELECT 220MF	20% 35V	D402	8-719-109-97	DIODE RD6.8ES-B2	
C822	1-104-696-11	FILM 0.015MF	10% 100V	D403	8-719-109-97	DIODE RD6.8ES-B2	
C823	1-106-375-12	MYLAR 0.022MF	10% 250V	D404	8-719-109-97	DIODE RD6.8ES-B2	
C824	1-106-367-00	MYLAR 0.01MF	10% 400V	D405	8-719-109-97	DIODE RD6.8ES-B2	
C825	1-136-104-00	FILM 0.16MF	5% 200V	D406	8-719-109-97	DIODE RD6.8ES-B2	
C826	1-129-723-00	FILM 0.068MF	10% 200V	D407	8-719-109-97	DIODE RD6.8ES-B2	
< FILTER >				D408	8-719-109-97	DIODE RD6.8ES-B2	
CF101	1-404-801-11	TRAP, CERAMIC (KV-M1450A/M1451A/M1450D/M1451D/M1450E/M1451E/M1450K/M1451K)		D409	8-719-991-33	DIODE 1SS133T-77	
	1-409-429-11	TRAP, CERAMIC (KV-M1450U/M1451U)		D410	8-719-109-97	DIODE RD6.8ES-B2	
	1-409-430-11	TRAP, CERAMIC (KV-M1450B/M1451B)		D501	8-719-302-43	DIODE EL1Z	
CF102	1-409-327-00	TRAP, CERAMIC (6.5 MHz) (KV-M1450K/M1451K)		D600	8-719-991-33	DIODE 1SS133T-77	
CF103	1-567-100-00	FILTER, CERAMIC (KV-M1450U/M1451U)		D601	8-719-046-77	DIODE EM1-V1	
	1-760-106-11	FILTER, CERAMIC (KV-M1450A/M1451A/M1450B/M1451B/M1450D/M1451D/M1450E/M1451E/M1450K/M1451K)		D602	8-719-312-61	DIODE EU-1Z	
CF104	1-567-101-11	FILTER, CERAMIC (KV-M1450K/M1451K)		D603	8-719-046-78	DIODE EG-1Z-V1	
CF105	1-760-154-11	TRAP, CERAMIC (KV-M1450B/M1451B)		D604	8-719-312-61	DIODE EU-1Z	
SWF101	1-579-120-11	FILTER, SURFACE WAVE (KV-M1450A/M1451A/M1450D/M1451D/M1450E/M1451E)		D605	8-719-312-61	DIODE EU-1Z	
	1-579-273-11	FILTER, SURFACE WAVE (KV-M1450B/M1451B)		D606	8-719-979-85	DIODE RGP20G	
	1-579-414-11	FILTER, SURFACE WAVE (KV-M1450K/M1451K)		D607	8-719-302-43	DIODE EL1Z	
	1-760-711-11	FILTER, SURFACE WAVE (KV-M1450U/M1451U)		D608	8-719-980-78	DIODE ERA83-006	
SWF102	1-760-722-11	FILTER, SURFACE WAVE (KV-M1450B/M1451B)		D610	8-719-025-88	DIODE GBU4JL-6088	
< CONNECTOR >				D611	8-719-991-33	DIODE 1SS133T-77	
CN001	*1-568-880-51	PIN, CONNECTOR 5P		D701	8-719-991-33	DIODE 1SS133T-77	
CN201	*1-564-506-11	PLUG, CONNECTOR 3P		D702	8-719-991-33	DIODE 1SS133T-77	
CN601	*1-580-844-11	PIN, CONNECTOR (POWER)		D703	8-719-991-33	DIODE 1SS133T-77	
CN602	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		D704	8-719-991-33	DIODE 1SS133T-77	
CN603	*1-508-786-11	PIN, CONNECTOR (5MM PITCH) 2P		D705	8-719-991-33	DIODE 1SS133T-77	
CN801	*1-580-798-11	CONNECTOR PIN (DY) 6P		D706	8-719-991-33	DIODE 1SS133T-77	
CN804	*1-568-879-11	PIN, CONNECTOR 4P		D707	8-719-991-33	DIODE 1SS133T-77	
				D708	8-719-991-33	DIODE 1SS133T-77	
				D709	8-719-991-33	DIODE 1SS133T-77	
				D716	8-719-991-33	DIODE 1SS133T-77	
				D717	8-719-054-81	DIODE 1SS292T-77	
				D718	8-719-991-33	DIODE 1SS133T-77	
				D719	8-719-054-81	DIODE 1SS292T-77	
				D720	8-719-991-33	DIODE 1SS133T-77	
				D721	8-719-054-81	DIODE 1SS292T-77	
				D802	8-719-302-43	DIODE EL1Z	
				D804	8-719-028-72	DIODE RGP02-17EL-6433	
				D806	8-719-302-43	DIODE EL1Z	

The components identified by shading and marked  are critical for safety. Replace only with the part number specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

# A and C

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D807	8-719-991-33	DIODE 1SS133T-77		L201	1-412-531-31	INDUCTOR 33UH	
	< FUSE >			L602	1-408-609-41	INDUCTOR 33UH	
<del>F601</del>	<del>1-576-230-11</del>	<del>FUSE (R.B.C.) 4A, 250V</del>		L603	1-410-669-31	INDUCTOR 33UH	
<del>F601</del>	<del>1-533-210-11</del>	<del>HOLDER, FUSE, F601</del>		L604	1-408-417-00	INDUCTOR 47UH	
	< FERRITE BEAD >			L800	1-412-553-11	INDUCTOR 3.3MMH	
FB001	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH		L802	1-407-365-00	COIL, CHOKER	
FB002	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH		L805	1-412-531-31	INDUCTOR 33UH	
FB003	1-410-397-31	FERRITE BEAD INDUCTOR 1.1UH		L806	1-459-756-12	COIL, HORIZONTAL LINEARITY	
FB601	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH			< IC LINK >		
FB603	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH		<del>P5602</del>	<del>1-532-686-91</del>	<del>LINK, IC 2.7A (ICP-N75)</del>	
FB604	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH		<del>P5603</del>	<del>1-532-637-91</del>	<del>LINK, IC 1.0A (ICP-N25)</del>	
FB605	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH			< TRANSISTOR >		
	< IC >			Q001	8-729-922-66	TRANSISTOR 2SC2410SN	
IC001	8-759-368-69	IC SAA5288ZP/014 (KV-M1450A/M1450B/M1450D/M1450E/M1450K/ M1450U)		Q002	8-729-026-41	TRANSISTOR 2SA933AS-QRT	
	8-759-368-23	IC SAA5290ZP/014 (KV-M1451A/M1451B/M1451D/M1451E/M1451K/ M1451U)		Q005	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC002	8-759-280-74	IC ST24C02CB1		Q006	8-729-026-41	TRANSISTOR 2SA933AS-QRT	
IC003	8-741-790-11	IC SBX1790-11		Q007	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC101	8-759-333-17	IC TDA9812 (KV-M1450B/M1451B)		Q008	8-729-920-74	TRANSISTOR 2SC2412K-QR	
	8-759-333-19	IC TDA9806 (KV-M1450A/M1451A/M1450D/M1451D/M1450E/ M1451E/M1450K/M1451K/M1450U/M1451U)		Q009	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC301	8-759-333-44	IC MC44007P (KV-M1450A/M1451A/M1450E/M1451E/M1450U/ M1451U)		Q010	8-729-920-74	TRANSISTOR 2SC2412K-QR	
	8-759-333-45	IC MC44002P (KV-M1450B/M1451B/M1450D/M1451D/M1450K/ M1451K)		Q011	8-729-900-89	TRANSISTOR DTC144ES	
IC302	8-759-333-46	IC MC44140P		Q012	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC401	8-759-041-82	IC TDA1013B		Q013	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC501	8-759-324-56	IC TDA9302H		Q014	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC601	8-749-011-02	IC STR-S5706		Q015	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC603	8-759-337-99	IC TDA8139		Q016	8-729-216-22	TRANSISTOR 2SC1162-G	
	< SOCKET >			Q100	8-729-901-01	TRANSISTOR DTC144EK	
J201	1-568-267-21	JACK		Q101	8-729-027-23	TRANSISTOR DTC114EKA-T146 (KV-M1450B/M1451B)	
J401	1-695-551-11	SOCKET 21P		Q102	8-729-027-23	TRANSISTOR DTC114EKA-T146 (KV-M1450B/M1451B)	
<del>J701</del>	<del>1-251-192-11</del>	<del>SOCKET, CRT</del>		Q103	8-729-027-23	TRANSISTOR DTC114EKA-T146 (KV-M1450B/M1451B)	
	< COIL >			Q105	8-729-901-01	TRANSISTOR DTC144EK	
L101	1-410-669-31	INDUCTOR 33UH		Q107	8-729-119-78	TRANSISTOR 2SC2785-HFE	
L105	1-408-411-00	INDUCTOR 15UH		Q109	8-729-022-54	TRANSISTOR 2SC3779C, D-AA (KV-M1450B/M1451B)	
L108	1-408-405-00	INDUCTOR 4.7UH (KV-M1450K/M1451K)		Q111	8-729-900-89	TRANSISTOR DTC144ES (KV-M1450K/M1451K)	
	1-408-408-00	INDUCTOR 8.2UH (KV-M1450A/M1451A/M1450B/M1451B/M1450D/ M1451D/M1450E/M1451E/M1450U/M1451U)		Q112	8-729-119-78	TRANSISTOR 2SC2785-HFE	
L109	1-403-686-11	COIL		Q113	8-729-900-89	TRANSISTOR DTC144ES (KV-M1450K/M1451K)	
L110	1-410-673-31	INDUCTOR 68UH		Q114	8-729-901-01	TRANSISTOR DTC144EK	
L111	1-410-665-31	INDUCTOR 15UH (KV-M1450B/M1451B)		Q115	8-729-119-76	TRANSISTOR 2SA1175-HFE (KV-M1450B/M1451B)	
L112	1-408-417-00	INDUCTOR 47UH		Q116	8-729-900-89	TRANSISTOR DTC144ES (KV-M1450B/M1451B)	
L113	1-410-985-11	INDUCTOR CHIP 0.22UH (KV-M1450A/M1451A/M1450B/M1451B/M1450D/ M1451D/M1450E/M1451E)		Q300	8-729-027-23	TRANSISTOR DTC114EKA-T146	
	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-M1450U/M1451U)		Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE	
				Q302	8-729-027-23	TRANSISTOR DTC114EKA-T146	
				Q303	8-729-027-23	TRANSISTOR DTC114EKA-T146	
				Q304	8-729-027-23	TRANSISTOR DTC114EKA-T146	
				Q305	8-729-027-23	TRANSISTOR DTC114EKA-T146	
				Q306	8-729-027-23	TRANSISTOR DTC114EKA-T146	
				Q307	8-729-119-76	TRANSISTOR 2SA1175-HFE (KV-M1450B/M1451B)	
				Q401	8-729-119-78	TRANSISTOR 2SC2785-HFE	
				Q402	8-729-216-22	TRANSISTOR 2SA1162-G	
				Q403	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q404	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q500	8-729-017-06	TRANSISTOR 2SC4793	

## A and C

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE		R034	1-249-429-11	CARBON 10K 5%	1/4W
Q600	8-729-119-78	TRANSISTOR 2SC2785-HFE		R035	1-247-863-91	CARBON 22K 5%	1/4W
Q602	8-729-900-65	TRANSISTOR DTA144ES		R036	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE		R037	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE		R039	1-216-089-00	METAL GLAZE 47K 5%	1/10W
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE		R040	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q704	8-729-906-70	TRANSISTOR BF871-127		R042	1-216-230-00	METAL GLAZE 22K 5%	1/8W
Q705	8-729-906-70	TRANSISTOR BF871-127		R044	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q706	8-729-906-70	TRANSISTOR BF871-127		R045	1-216-081-00	METAL GLAZE 22K 5%	1/10W
Q707	8-729-200-17	TRANSISTOR 2SA1091-0		R046	1-216-105-91	METAL GLAZE 220K 5%	1/10W
Q708	8-729-200-17	TRANSISTOR 2SA1091-0		R047	1-216-077-00	METAL GLAZE 15K 5%	1/10W
Q709	8-729-200-17	TRANSISTOR 2SA1091-0		R049	1-216-041-00	METAL GLAZE 470 5%	1/10W
Q801	8-729-119-80	TRANSISTOR 2SC2688-LK		R052	1-216-238-91	METAL GLAZE 47K 5%	1/8W
Q802	8-729-031-72	TRANSISTOR S2055N-16E314A		R055	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q803	8-729-900-89	TRANSISTOR DTC144ES		R060	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
< RESISTOR >				R061	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR003	1-216-296-00	METAL GLAZE 0 5%	1/8W	R062	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR004	1-216-296-00	METAL GLAZE 0 5%	1/8W	R063	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
JR007	1-216-295-00	METAL GLAZE 0 5%	1/10W	R064	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR008	1-216-295-00	METAL GLAZE 0 5%	1/10W	R065	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR009	1-216-295-00	METAL GLAZE 0 5%	1/10W	R066	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR012	1-216-295-00	METAL GLAZE 0 5%	1/10W	R067	1-216-081-00	METAL GLAZE 22K 5%	1/10W
JR013	1-216-295-00	METAL GLAZE 0 5%	1/10W	R068	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR014	1-216-296-00	METAL GLAZE 0 5%	1/8W	R069	1-247-863-91	CARBON 22K 5%	1/4W
JR015	1-216-295-00	METAL GLAZE 0 5%	1/10W	R070	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR017	1-216-295-00	METAL GLAZE 0 5%	1/10W	R071	1-216-081-00	METAL GLAZE 22K 5%	1/10W
JR018	1-216-296-00	METAL GLAZE 0 5%	1/8W	R072	1-216-230-00	METAL GLAZE 22K 5%	1/8W
JR019	1-216-296-00	METAL GLAZE 0 5%	1/8W	R073	1-216-089-00	METAL GLAZE 47K 5%	1/10W
JR021	1-216-296-00	METAL GLAZE 0 5%	1/8W	R074	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR024	1-216-296-00	METAL GLAZE 0 5%	1/8W	R075	1-249-436-11	CARBON 39K 5%	1/4W
JR026	1-216-296-00	METAL GLAZE 0 5%	1/8W	R078	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
R001	1-216-198-91	METAL GLAZE 1K 5%	1/8W	R079	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R002	1-216-033-00	METAL GLAZE 220 5%	1/10W	R080	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R005	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R081	1-249-438-11	CARBON 56K 5%	1/4W
R006	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R088	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R008	1-216-031-00	METAL GLAZE 180 5%	1/10W	R089	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R009	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R090	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R010	1-216-041-00	METAL GLAZE 470 5%	1/10W	R091	1-249-427-11	CARBON 6.8K 5%	1/4W
R011	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R093	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R012	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R094	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R013	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R095	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R014	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R096	1-216-033-00	METAL GLAZE 220 5%	1/10W
R015	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R097	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R016	1-216-025-00	METAL GLAZE 100 5%	1/10W	R098	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R017	1-216-025-00	METAL GLAZE 100 5%	1/10W	R099	1-216-200-11	METAL GLAZE 1.2K 5%	1/8W
R018	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R102	1-216-234-91	METAL GLAZE 33K 5%	1/8W
R019	1-216-174-00	METAL GLAZE 100 5%	1/8W	R104	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R020	1-216-089-00	METAL GLAZE 27K 5%	1/10W				(KV-M1450B/M1451B)
R021	1-216-174-00	METAL GLAZE 100 5%	1/8W	R105	1-216-025-00	METAL GLAZE 100 5%	1/10W
R022	1-216-295-00	METAL GLAZE 0 5%	1/10W				(KV-M1450B/M1451B)
R024	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R106	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
							(KV-M1450B/M1451B)
R025	1-216-222-00	METAL GLAZE 10K 5%	1/8W	R107	1-216-017-91	METAL GLAZE 47 5%	1/10W
R026	1-216-081-00	METAL GLAZE 22K 5%	1/10W				(KV-M1450B/M1451B)
R027	1-216-206-00	METAL GLAZE 2.2K 5%	1/8W	R108	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R028	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R109	1-216-025-00	METAL GLAZE 100 5%	1/10W
R029	1-216-081-00	METAL GLAZE 22K 5%	1/10W				(KV-M1450B/M1451B)
R030	1-215-900-11	METAL OXIDE 22K 5%	2W F	R110	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R031	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R111	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R032	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R033	1-216-049-00	METAL GLAZE 1K 5%	1/10W				

## A and C

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R112	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W (KV-M1450B/M1451B)		R161	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-M1450A/M1451A/M1450D/M1451D/M1450E/ M1451E/M1450K/M1451K/M1450U/M1451U)	
R113	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W (KV-M1450B/M1451B)		R162	1-216-017-91	METAL GLAZE 47 5% 1/10W (KV-M1450B/M1451B)	
R114	1-216-073-00	METAL GLAZE 10K 5% 1/10W (KV-M1450B/M1451B)		R163	1-249-407-11	CARBON 150 5% 1/4W	
R115	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W (KV-M1450B/M1451B)		R167	1-216-246-91	METAL GLAZE 100K 5% 1/8W	
R116	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R168	1-249-407-11	CARBON 150 5% 1/4W	
R117	1-216-089-00	METAL GLAZE 47K 5% 1/10W		R169	1-216-073-00	METAL GLAZE 10K 5% 1/10W (KV-M1450B/M1451B)	
R118	1-216-075-00	METAL GLAZE 12K 5% 1/10W		R170	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W (KV-M1450B/M1451B)	
R122	1-216-029-00	METAL GLAZE 150 5% 1/10W (KV-M1450A/M1451A/M1450B/M1451B/M1450D/ M1451D/M1450E/M1451E/M1450U/M1451U)		R171	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W (KV-M1450B/M1451B)	
	1-216-025-91	METAL GLAZE 100 5% 1/10W (KV-M1450K/M1451K)		R175	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R123	1-216-089-00	METAL GLAZE 47K 5% 1/10W		R176	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R124	1-216-025-00	METAL GLAZE 100 5% 1/10W		R177	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R125	1-216-025-00	METAL GLAZE 100 5% 1/10W		R178	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R126	1-216-025-00	METAL GLAZE 100 5% 1/10W		R179	1-216-212-00	METAL GLAZE 3.9K 5% 1/8W	
R127	1-216-180-00	METAL GLAZE 180 5% 1/8W		R180	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-M1450B/M1451B)	
R128	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R181	1-216-182-00	METAL GLAZE 220 5% 1/8W	
R133	1-249-429-11	CARBON 10K 5% 1/4W		R182	1-216-182-00	METAL GLAZE 220 5% 1/8W	
R134	1-216-029-00	METAL GLAZE 150 5% 1/10W (KV-M1450U/M1451U)		R205	1-247-741-11	CARBON 150 5% 1/2W	
	1-216-031-00	METAL GLAZE 180 5% 1/10W (KV-M1450A/M1451A/M1450B/M1451B/M1450D/ M1451D/M1450E/M1451E/M1450K/M1451K)		R301	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R136	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W		R302	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R137	1-216-109-00	METAL GLAZE 330K 5% 1/10W		R303	1-216-090-00	METAL GLAZE 51K 5% 1/10W	
R138	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R304	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R141	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W		R305	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R142	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W		R307	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R143	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-M1450A/M1451A/M1450B/M1451B/M1450D/ M1451D/M1450E/M1451E/M1450U/M1451U)		R308	1-216-234-00	METAL GLAZE 33K 5% 1/8W	
R144	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W (KV-M1450K/M1451K)		R309	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R145	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W (KV-M1450K/M1451K)		R310	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R146	1-216-043-91	METAL GLAZE 560 5% 1/10W		R311	1-216-093-00	METAL GLAZE 68K 5% 1/10W	
R147	1-216-043-91	METAL GLAZE 560 5% 1/10W (KV-M1451K)		R312	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R149	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W (KV-M1450K/M1451K)		R313	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R151	1-216-097-00	METAL GLAZE 100K 5% 1/10W		R314	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R153	1-216-097-00	METAL GLAZE 100K 5% 1/10W		R315	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R154	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R316	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R155	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R317	1-216-182-00	METAL GLAZE 220 5% 1/8W	
R157	1-216-049-91	METAL GLAZE 1K 5% 1/10W (KV-M1450B/M1451B)		R318	1-216-019-00	METAL GLAZE 56 5% 1/10W	
R158	1-216-039-00	METAL GLAZE 390 5% 1/10W (KV-M1450A/M1451A/M1450D/M1451D/M1450E/ M1451E/M1450K/M1451K/M1450U/M1451U)		R322	1-216-022-00	METAL GLAZE 75 5% 1/10W	
	1-216-031-00	METAL GLAZE 180 5% 1/10W (KV-M1450B/M1451B)		R323	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R159	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W		R325	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R160	1-216-238-91	METAL GLAZE 47K 5% 1/8W		R333	1-216-037-00	METAL GLAZE 330 5% 1/10W	
				R334	1-216-033-00	METAL GLAZE 220 5% 1/10W	
				R335	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				R336	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				R337	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				R339	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
				R340	1-216-121-91	METAL GLAZE 1M 5% 1/10W	
				R341	1-216-073-00	METAL GLAZE 12K 5% 1/10W	
				R342	1-216-186-00	METAL GLAZE 330 5% 1/8W	
				R343	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				R344	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				R345	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
				R347	1-216-041-00	METAL GLAZE 470 5% 1/10W (KV-M1450B/M1451B)	
				R348	1-216-073-00	METAL GLAZE 10K 5% 1/10W (KV-M1450B/M1451B)	

**A and C**

The components identified by shading and marked **A** are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R349	1-216-105-00	METAL GLAZE 220K 5% 1/10W (KV-M1450B/M1451B)		R615	1-217-371-00	FUSIBLE 0.47 10% 1/4W	F
R350	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-M1450B/M1451B)		R617	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R351	1-216-292-11	METAL GLAZE 8.2M 5% 1/8W (KV-M1450B/M1451B/M1450D/M1451D/M1450K/M1451K)		R618	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R352	1-216-278-11	METAL GLAZE 2.2K 5% 1/8W		R620	1-215-479-00	METAL 270K 1% 1/4W	
R353	1-247-804-11	CARBON 75 5% 1/4W		R621	1-249-429-11	CARBON 10K 5% 1/4W	
R354	1-216-025-00	METAL GLAZE 100 5% 1/10W		R622	1-247-895-91	METAL GLAZE 470K 5% 1/4W	
R355	1-216-121-91	METAL GLAZE 1M 5% 1/10W		R623	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R356	1-216-121-91	METAL GLAZE 1M 5% 1/10W		R624	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R357	1-216-091-00	METAL GLAZE 56K 5% 1/10W		R625	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R358	1-216-009-00	METAL GLAZE 22 5% 1/10W		R626	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R361	1-216-023-00	METAL GLAZE 82 5% 1/10W		R627	1-216-346-00	METAL OXIDE 0.56 5% 1W	F
R362	1-216-023-00	METAL GLAZE 82 5% 1/10W		R630	1-249-401-11	CARBON 47 5% 1/4W	
R363	1-216-023-00	METAL GLAZE 82 5% 1/10W		R701	1-216-198-91	METAL GLAZE 1K 5% 1/8W	
R401	1-216-041-00	METAL GLAZE 470 5% 1/10W		R702	1-249-417-11	CARBON 1K 5% 1/4W	
R402	1-249-431-11	CARBON 15K 5% 1/4W		R705	1-216-158-00	METAL GLAZE 22 5% 1/8W	
R403	1-249-431-11	CARBON 15K 5% 1/4W		R706	1-216-009-00	METAL GLAZE 22 5% 1/10W	
R405	1-249-389-11	CARBON 4.7 5% 1/4W	F	R707	1-216-158-00	METAL GLAZE 22 5% 1/8W	
R406	1-216-091-00	METAL GLAZE 56K 5% 1/10W		R708	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R407	1-216-041-00	METAL GLAZE 470 5% 1/10W		R709	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R408	1-216-033-00	METAL GLAZE 220 5% 1/10W		R710	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R410	1-247-804-11	METAL GLAZE 75 5% 1/4W (KV-M1450A/M1451A/M1450B/M1451B/M1450D/M1451D/M1450E/M1451E/M1450K/M1451K)		R711	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
	1-247-698-11	METAL GLAZE 68 5% 1/4W (KV-M1450U/M1451U)		R714	1-216-198-91	METAL GLAZE 1K 5% 1/8W	
R411	1-216-085-00	METAL GLAZE 33K 5% 1/10W		R715	1-249-417-11	CARBON 1K 5% 1/4W	
R412	1-216-105-91	METAL GLAZE 220K 5% 1/10W		R716	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R413	1-216-097-00	METAL GLAZE 100K 5% 1/10W		R717	1-247-758-00	CARBON 3.3K 5% 1/2W	
R414	1-216-097-00	METAL GLAZE 100K 5% 1/10W		R718	1-247-758-00	CARBON 3.3K 5% 1/2W	
R415	1-216-222-00	METAL GLAZE 10K 5% 1/8W		R719	1-247-758-00	CARBON 3.3K 5% 1/2W	
R416	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R720	1-216-463-00	METAL OXIDE 12K 5% 2W	F
R501	1-208-806-11	METAL CHIP 10K 0.50% 1/10W		R721	1-216-463-00	METAL OXIDE 12K 5% 2W	F
R502	1-216-677-11	METAL CHIP 12K 0.50% 1/10W		R722	1-216-463-00	METAL OXIDE 12K 5% 2W	F
R503	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R726	1-202-719-00	SOLID 1M 10% 1/2W	
R504	1-216-095-00	METAL GLAZE 82K 5% 1/10W		R727	1-202-838-00	SOLID 100K 10% 1/2W	
R505	1-216-075-00	METAL GLAZE 12K 5% 1/10W		R729	1-216-348-00	METAL OXIDE 0.82 5% 1W	F
R506	1-216-079-00	METAL GLAZE 18K 5% 1/10W		R731	1-202-719-00	SOLID 1M 10% 1/2W	
R507	1-216-350-11	METAL OXIDE 1.2 5% 1W	F	R734	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R508	1-215-865-11	METAL OXIDE 220 5% 1W	F	R735	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R509	1-249-380-11	CARBON 0.82 5% 1/4W	F	R736	1-247-815-91	CARBON 220 5% 1/4W	
R512	1-215-888-00	METAL OXIDE 220 5% 2W	F	R744	1-249-421-11	CARBON 2.2K 5% 1/4W	
R513	1-249-425-11	CARBON 4.7K 5% 1/4W		R745	1-249-421-11	CARBON 2.2K 5% 1/4W	
R514	1-216-089-00	METAL GLAZE 47K 5% 1/10W		R746	1-249-421-11	CARBON 2.2K 5% 1/4W	
R515	1-215-912-11	METAL OXIDE 150 5% 3W	F	R800	1-215-864-00	METAL OXIDE 150 5% 1W	F
R600	1-216-365-00	METAL OXIDE 0.47 5% 2W	F	R801	1-247-891-00	CARBON 330K 5% 1/4W	
R601	1-205-909-11	WIREWOUND 1.3 5% 10W		R802	1-247-807-31	CARBON 100 5% 1/4W	
R603	1-215-860-11	METAL OXIDE 33 5% 1W	F	R803	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R604	1-215-927-00	METAL OXIDE 47K 5% 3W	F	R804	1-217-778-11	FUSIBLE 1K 5% 1W	F
R606	1-249-441-11	CARBON 100K 5% 1/4W		R806	1-216-353-00	METAL OXIDE 2.2 5% 1W	F
R607	1-216-366-00	METAL OXIDE 0.56 5% 2W	F	R807	1-216-013-00	METAL GLAZE 33 5% 1/10W	
R608	1-216-645-11	METAL CHIP 560 0.50% 1/10W		R808	1-202-833-11	SOLID 18K 10% 1/2W	
R609	1-215-861-00	METAL OXIDE 47 5% 1W	F	R810	1-247-895-91	CARBON 470K 5% 1/4W	
R610	1-249-419-11	CARBON 1.5K 5% 1/4W		R812	1-215-869-11	METAL OXIDE 1K 5% 1W	F
R611	1-215-430-00	METAL 2.4K 1% 1/4W		R814	1-217-811-11	FUSIBLE 0.47 5% 1/4W	
R612	1-202-719-91	SOLID 1M 10% 1/2W		R816	1-216-369-00	METAL OXIDE 1 5% 2W	F
R614	1-216-265-11	METAL 3.2M 5% 1W		R817	1-216-447-00	METAL OXIDE 27 5% 2W	F
				R818	1-202-813-00	SOLID 22K 10% 1/2W	
				R819	1-249-441-11	CARBON 100K 5% 1/4W	
				R820	1-249-935-11	CARBON 3.3K 5% 1/4W	F
				< VARIABLE RESISTOR >			
				RV102	1-241-765-11	RES, ADJ, METAL GLAZE 22K (KV-M1450B/M1451B)	

The components identified by shading and marked  $\Delta$  are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

KV-M145

A and C

C

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV703	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
RV704	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	

< SWITCH >

S001	1-571-532-21	SWITCH, TACTIL	
S002	1-571-532-21	SWITCH, TACTIL	
S003	1-571-532-21	SWITCH, TACTIL	
S004	1-571-532-21	SWITCH, TACTIL	
S005	1-571-532-21	SWITCH, TACTIL	
S006	1-571-532-21	SWITCH, TACTIL	
S601	1-571-433-21	SWITCH, PUSH (AC POWER)	

< TRANSFORMER >

T601	1-427-962-11	TRANSFORMER, LINE FILTER	
T602	1-427-994-11	TRANSFORMER, CONVERTER	
T801	1-437-090-31	HDT	
T802	1-453-186-11	TRANSFORMER ASSY. FLYBACK (N1-1730/02A4)	

< THERMISTOR >

THP601	1-806-165-12	THERMISTOR (POSITIVE)	
--------	--------------	-----------------------	--

< TUNER >

TU101	1-693-303-11	TUNER (TELELX001A) (KV-M1450A/M1451A)	
	1-693-310-11	TUNER (TELELX002A) (KV-M1450B/M1451B)	
	8-598-331-00	TUNER (BT-AC401) (KV-M1450D/M1451D/M1450E/M1451E)	
	1-693-302-11	TUNER (U1315) (KV-M1450K/M1451K)	
	1-693-301-11	TUNER (U1343) (KV-M1450U)	
	8-598-333-00	TUNER (BT-AU601) (KV-M1451U)	

< CRYSTAL >

X001	1-578-774-11	VIBRATOR, CRYSTAL	
X301	1-760-907-21	VIBRATOR, CRYSTAL (KV-M1450K/M1451K)	
X302	1-760-710-21	VIBRATOR, CRYSTAL	

\*\*\*\*\*

*A-1638-064-A	C BOARD, COMPLETE (KV-M1450A/M1451A/M1450B/M1451B/M1450E/M1451E)	
*A-1638-063-A	C BOARD, COMPLETE (KV-M1450D/M1451D/M1450K/M1451K/M1450U/M1451U)	

< CAPACITOR >

C701	1-163-135-00	CERAMIC CHIP 560PF	5%	50V
C702	1-163-135-00	CERAMIC CHIP 560PF	5%	50V
C703	1-163-135-00	CERAMIC CHIP 560PF	5%	50V
C704	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
C705	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
C706	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
C707	1-136-189-00	FILM 0.1MF	10%	250V
C709	1-162-114-00	CERAMIC 0.0047MF		2KV
C710	1-126-967-11	ELECT 47MF	20%	16V

< DIODE >

D701	8-719-991-33	DIODE 1SS133T-77	
D702	8-719-991-33	DIODE 1SS133T-77	
D703	8-719-991-33	DIODE 1SS133T-77	
D704	8-719-991-33	DIODE 1SS133T-77	
D705	8-719-991-33	DIODE 1SS133T-77	
D706	8-719-991-33	DIODE 1SS133T-77	
D707	8-719-991-33	DIODE 1SS133T-77	

REF.NO.	PART NO.	DESCRIPTION	REMARK
D708	8-719-991-33	DIODE 1SS133T-77	
D709	8-719-991-33	DIODE 1SS133T-77	
D716	8-719-991-33	DIODE 1SS133T-77	

< CRT SOCKET >

S701	1-251-192-11	SOCKET, CRT	
------	--------------	-------------	--

< TRANSISTOR >

Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q704	8-729-906-70	TRANSISTOR BF871-127	
Q705	8-729-906-70	TRANSISTOR BF871-127	
Q706	8-729-906-70	TRANSISTOR BF871-127	
Q707	8-729-200-17	TRANSISTOR 2SA1091-0	
Q708	8-729-200-17	TRANSISTOR 2SA1091-0	
Q709	8-729-200-17	TRANSISTOR 2SA1091-0	

< RESISTOR >

R701	1-216-198-91	METAL GLAZE	1K	5%	1/8W
R702	1-249-417-11	CARBON	1K	5%	1/4W
R705	1-216-158-00	METAL GLAZE	22	5%	1/8W
R706	1-216-009-00	METAL GLAZE	22	5%	1/10W
R707	1-216-158-00	METAL GLAZE	22	5%	1/8W
R708	1-216-033-00	METAL GLAZE	220	5%	1/10W
R709	1-216-033-00	METAL GLAZE	220	5%	1/10W
R710	1-216-033-00	METAL GLAZE	220	5%	1/10W
R711	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R714	1-216-198-91	METAL GLAZE	1K	5%	1/8W
R715	1-249-417-11	CARBON	1K	5%	1/4W
R716	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R717	1-247-758-11	CARBON	3.3K	5%	1/2W
R718	1-247-758-11	CARBON	3.3K	5%	1/2W
R719	1-247-758-11	CARBON	3.3K	5%	1/2W
R720	1-216-463-00	METAL OXIDE	12K	5%	2W F
R721	1-216-463-00	METAL OXIDE	12K	5%	2W F
R722	1-216-463-00	METAL OXIDE	12K	5%	2W F
R726	1-202-719-00	SOLID	1M	10%	1/2W
R727	1-202-838-00	SOLID	100K	10%	1/2W
R729	1-216-348-00	METAL OXIDE	0.82	5%	1W F
R731	1-202-719-00	SOLID	1M	10%	1/2W
R734	1-216-033-00	METAL GLAZE	220	5%	1/10W
R735	1-216-033-00	METAL GLAZE	220	5%	1/10W
R736	1-247-815-91	CARBON	220	5%	1/4W
R744	1-249-421-11	CARBON	2.2K	5%	1/4W
R745	1-249-421-11	CARBON	2.2K	5%	1/4W
R746	1-249-421-11	CARBON	2.2K	5%	1/4W

< VARIABLE RESISTOR >

RV703	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
RV704	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	

\*\*\*\*\*

## KV-M145

The components identified by shading and marked  $\Delta$  are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
MISCELLANEOUS *****				ACCESSORIES AND PACKING MATERIALS *****			
	<del>1-426-145-21</del>	<del>COIL, DEGAUSSING</del>		1-417-154-11		MATCHING TRANSFORMER, ANTENNA (KV-M1450A/M1451A/M1450B/M1451B/M1450D/ M1451D/M1450E/M1451E/M1450K/M1451K)	
	1-452-032-00	MAGNET, DISK; 10MM $\emptyset$		1-501-730-11		ANTENNA, TELESCOPIC (KV-M1450A/M1451A/M1450B/M1451B/M1450D/ M1451D/M1450E/M1451E/M1450K/M1451K)	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM $\emptyset$		1-501-615-21		ANTENNA, LOOP (KV-M1450U/M1451U)	
	1-452-277-13	MAGNET, BMC		1-770-783-11		CONNECTOR, CONVERSION (KV-M1450K/M1451K)	
	<del>1-453-186-11</del>	<del>TRANSFORMER ASSY, FLYBACK</del>					
			(NX-1730/02A4)				
	1-504-899-11	SPEAKER (9x5CM)					
	<del>1-540-007-11</del>	<del>CAP ASSY, HIGH-VOLTAGE</del>					
	<del>1-571-433-21</del>	<del>SWITCH, PUSH (AC POWER)</del>					
	<del>1-690-270-11</del>	<del>CORD, POWER (WITH CONNECTOR)</del>		*4-039-905-02		BAG, PROTECTION (KV-M1450A/M1451A/M1450B/M1451B/M1450E/ M1451E)	
		<del>2.5A/250V (KV-M1450A/M1451A/M1450B/ M1451B/M1450E/M1451E)</del>		*4-393-126-01		BAG, PROTECTION (KV-M1450D/M1451D/M1450K/M1451K/M1450U/ M1451U)	
	<del>1-690-270-21</del>	<del>CORD, POWER (WITH CONNECTOR)</del>					
		<del>2.5A/250V (KV-M1450K/M1451K)</del>		4-203-238-41		MANUAL, INSTRUCTION (KV-M1450A/M1451A) (ITALIAN)	
	<del>1-590-460-11</del>	<del>CORD, POWER (WITH CONNECTOR)</del>		4-203-238-51		MANUAL, INSTRUCTION (KV-M1450B/M1451B) (FRENCH/GERMAN/ITALIAN)	
		<del>7.0A/250V (KV-M1450D/M1451D)</del>		4-203-242-11		MANUAL, INSTRUCTION (KV-M1450D/M1451D) (GERMAN/ENGLISH/DUTCH/FRENCH/DANISH/ SWEDISH/FINNISH/GREEK)	
	<del>1-590-762-11</del>	<del>CORD, POWER (WITH PLUG)</del>		4-203-243-11		MANUAL, INSTRUCTION (KV-M1450D/M1451D) (GERMAN/ENGLISH)	
		<del>2.5A/250V (KV-M1450U/M1451U)</del>		4-203-238-71		MANUAL, INSTRUCTION (KV-M1450E/M1451E) (SPANISH)	
	1-693-303-11	TUNER (TELELX001A) (KV-M1450A/M1451A)		4-203-238-81		MANUAL, INSTRUCTION (KV-M1450E/M1451E) (PORTUGUESE)	
	1-693-310-11	TUNER (TELELX002A) (KV-M1450B/M1451B)		4-203-242-91		MANUAL, INSTRUCTION (KV-M1450K/M1451K) (ENGLISH/POLISH/HUNGARIAN/CZECH)	
	8-598-331-00	TUNER (BT-AC401) (KV-M1450D/M1451D/M1450E/M1451E)		4-203-242-61		MANUAL, INSTRUCTION (KV-M1450U/M1451U) (ENGLISH)	
	1-693-302-11	TUNER (UV1315) (KV-M1450K/M1451K)		*4-203-024-11		CUSHION (UPPER) (ASSY) (KV-M1450A/M1451A/M1450B/M1451B/M1450E/ M1451E)	
	1-693-301-11	TUNER (UV1343) (KV-M1450U)		*4-203-024-01		CUSHION (UPPER) (ASSY) (KV-M1450D/M1451D/M1450K/M1451K/M1450U/ M1451U)	
	8-598-333-00	TUNER (BT-AU601) (KV-M1451U)		*4-203-025-11		CUSHION (BOTTOM) (ASSY) (KV-M1450A/M1451A/M1450B/M1451B/M1450E/ M1451E)	
	<del>8-451-249-84</del>	<del>DEFLECTION YOKER (Y14NDA2)</del>		*4-203-025-01		CUSHION (BOTTOM) (ASSY) (KV-M1450D/M1451D/M1450K/M1451K/M1450U/ M1451U)	
V901	<del>8-735-561-05</del>	<del>PICTURE TUBE (SD-125) (A34JB010X)</del>		*4-203-099-01		INDIVIDUAL CARTON (KV-M1450A/M1451A/M1450B/M1451B/M1450E/ M1451E)	
*****				*4-203-023-01		INDIVIDUAL CARTON (KV-M1450D/M1451D/M1450K/M1451K/M1450U/ M1451U)	
				REMOTE COMMANDER *****			
				1-473-194-11		COMMANDER, STANDARD TYPE (RM-836)	

\*\*\*\*\*



2290

# SERVICE MANUAL

# BE-4 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-M1450A	RM-836	Italian	SCC-H64E-A	KV-M1450E	RM-836	Spanish	SCC-H66C-A
KV-M1451A	RM-836	Italian	SCC-H64D-A	KV-M1451E	RM-836	Spanish	SCC-H66D-A
KV-M1450B	RM-836	French	SCC-H65C-A	KV-M1450K	RM-836	OIRT	SCC-H52E-A
KV-M1451B	RM-836	French	SCC-H65D-A	KV-M1451K	RM-836	OIRT	SCC-H52D-A
KV-M1450D	RM-836	AEP	SCC-H46E-A	KV-M1450U	RM-836	UK	SCC-H50D-A
KV-M1451D	RM-836	AEP	SCC-H46D-A	KV-M1451U	RM-836	UK	SCC-H50C-A

## SUPPLEMENT - 1

SUBJECT : CHANGE OF PART NUMBERS

File this supplement with the service manual

**INTRODUCTION :** Change in part numbers for KV-M1450D/M1451D/M1450K/M1451K with serial number beginning at 3000001.

<u>Section</u>	<u>Title</u>	<u>Page</u>
<b>5. DIAGRAMS</b>		
5-3.	Schematic Diagrams and Printed Wiring Boards	
	* C Board .....	2
	* A Board .....	4
<b>6. EXPLODED VIEWS</b>		
6-1.	Chassis and Picture Tube .....	6
<b>7. ELECTRICAL PARTS LIST</b>	.....	7

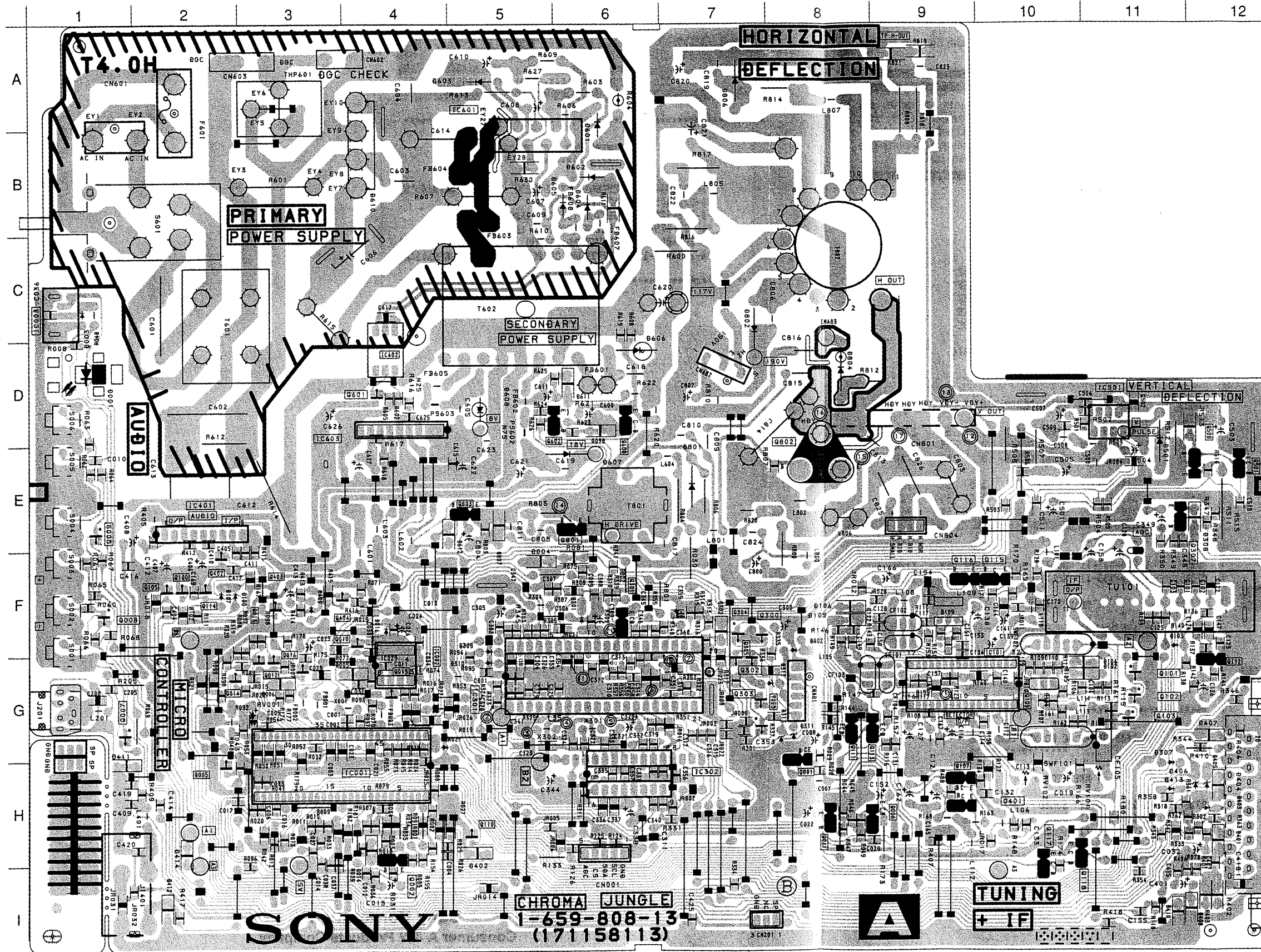


TRINITRON® COLOR TV  
**SONY®**

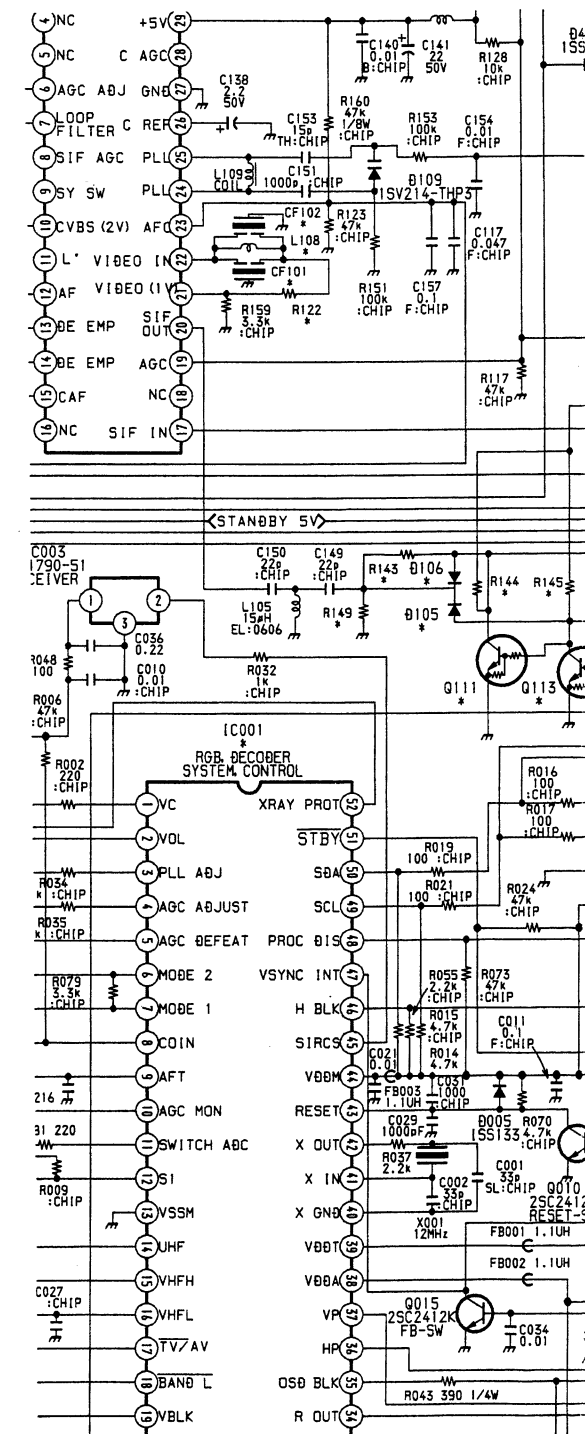
IC		Q801	E-6
IC001	H-4	Q802	D-8
IC002	F-4	Q803	E-5
IC003	C-1	DIODE	
IC101	G-10	D001	D-1
IC301	G-5	D002	F-8
IC302	H-7	D004	E-5
IC401	E-2	D005	G-4
IC501	D-11	D006	G-3
IC601	A-5	D014	I-4
IC603	D-3	D100	F-3
TRANSISTOR		D105	F-8
Q001	H-8	D106	F-8
Q002	I-4	D107	F-2
Q005	H-2	D109	F-9
Q006	H-9	D301	F-6
Q007	G-1	D302	F-7
Q008	F-1	D310	G-5
Q009	E-1	D315	G-5
Q010	F-4	D401	H-12
Q011	H-8	D402	H-5
Q012	G-3	D403	H-12
Q013	F-3	D404	H-12
Q014	G-2	D405	H-12
Q015	G-4	D406	G-11
Q016	F-3	D407	G-12
Q100	F-2	D408	I-12
Q105	F-2	D409	F-3
Q107	H-9	D410	I-11
Q111	G-8	D414	H-2
Q112	F-12	D501	D-11
Q114	F-2	D600	D-6
Q115	F-10	D601	A-6
Q300	F-7	D602	B-6
Q301	F-6	D603	A-5
Q302	G-7	D604	B-6
Q303	G-7	D605	B-6
Q304	F-7	D606	C-6
Q305	F-7	D607	E-6
Q306	G-8	D608	D-5
Q401	H-10	D610	B-4
Q402	F-2	D611	D-6
Q403	F-3	D802	C-7
Q404	F-4	D804	D-8
Q500	D-12	D806	A-7
Q501	E-12	D807	E-5
Q600	D-6		
Q602	D-5		

**A** SYSTEM CONTROL, HORIZONTAL OUTPUT,  
VERTICAL OUTPUT, CHROMINANCE,  
POWER, AUDIO

## A BOARD

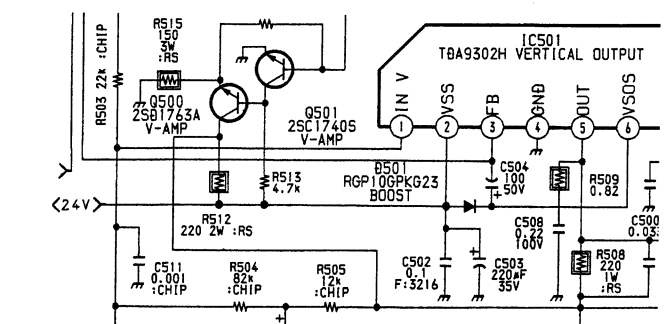
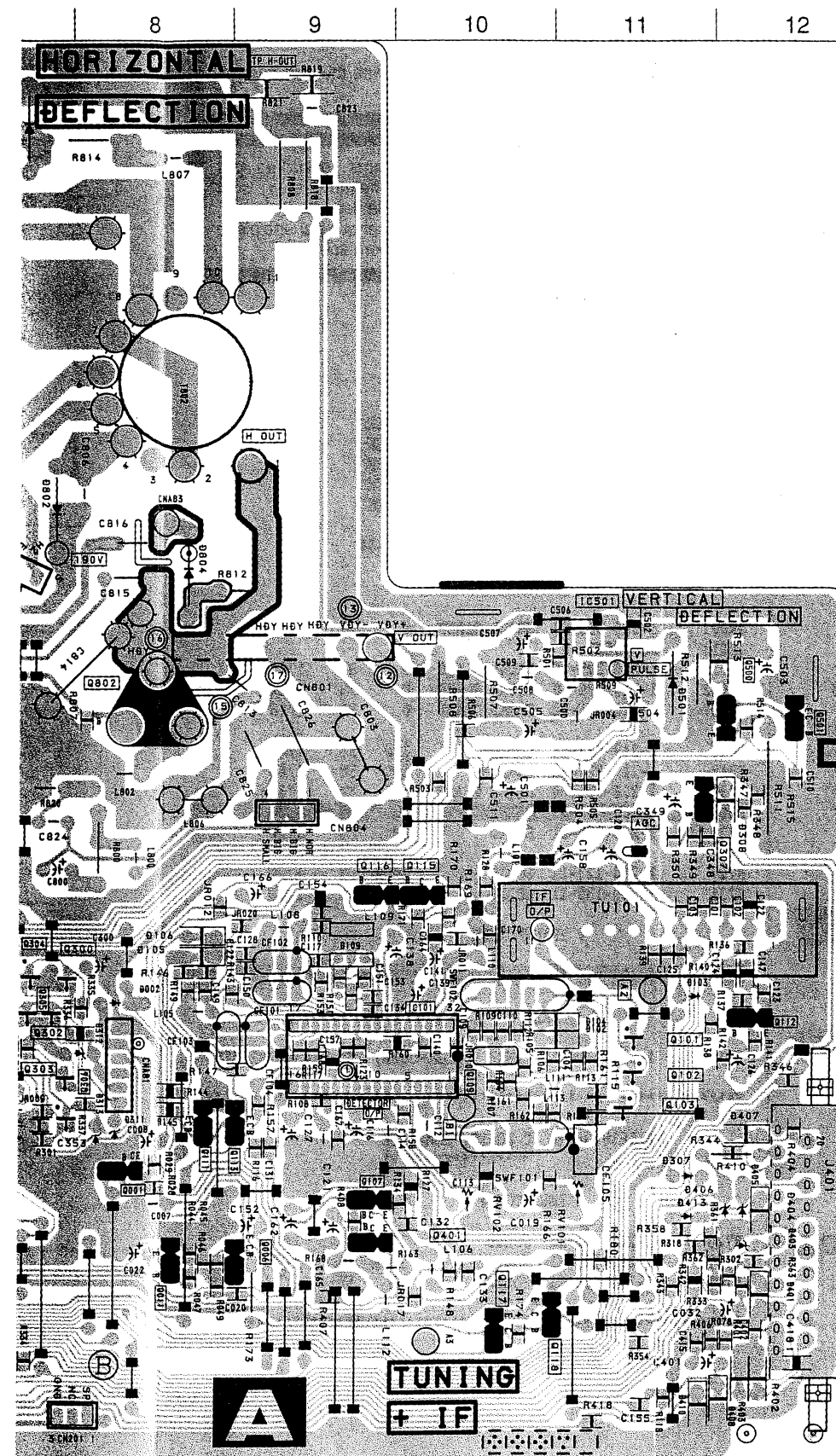


## A BOARD





Model Ref. No.	M1450D	M1451D	M1450K	M1451K
C016	—	0.47MF	—	0.47MF
C017	—	0.47MF	—	0.47MF
C120	470MF	470MF	220MF	220MF
R147	—	—	560	560
TU101	TELE4-002B	TELE4-002B	U1315	U1315



# SECTION 6 EXPLODED VIEWS

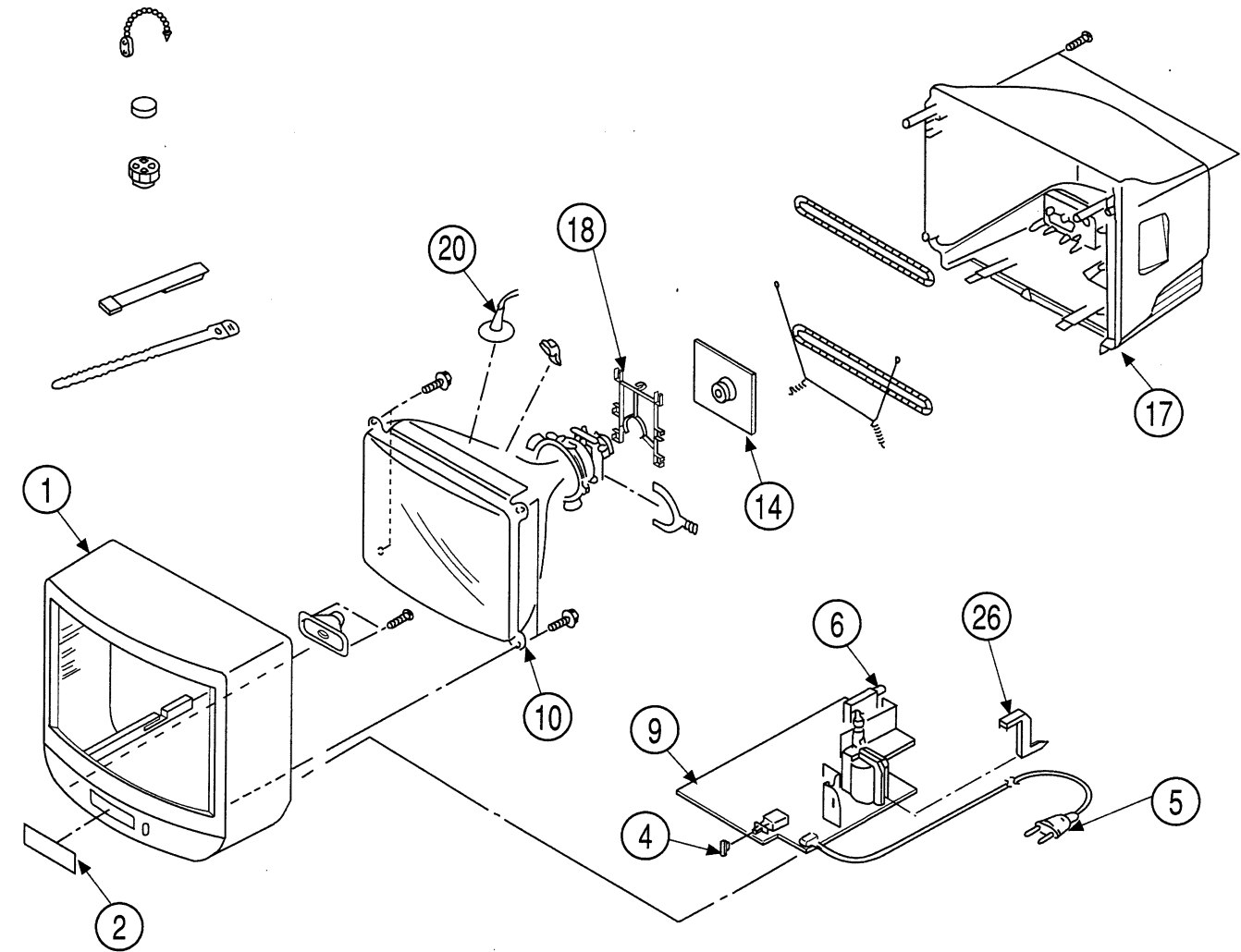
NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked  $\Delta$  are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

## 6-1. CHASSIS AND PICTURE TUBE



REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
1	X-4200-194-3	BEZNET, ASSY		17	4-203-019-21	COVER (SC), REAR	
2	4-203-014-31	WINDOW, ORNAMENTAL (KV-M1450K)		18	*4-203-097-01	HOLDER, HV	
4	4-203-014-21	WINDOW, ORNAMENTAL (KV-M1451K)				(KV-M1450D/M1451D/M1450K/M1451K)	
4	4-203-020-01	BUTTON, POWER		20	$\Delta$ 1-540-007-12	CAP ASSY, HIGH VOLTAGE	
5	$\Delta$ 1-690-270-21	CORD, POWER (WITH CONNECTOR)		26	*4-203-084-11	BRACKET, FBT	
		2.5A/250V (KV-M1450D/M1451D)					
6	1-693-310-11	TUNER (TELE4X-002B) (KV-M1450D/M1451D)					
9	*A-1666-012-A	A AND C BOARD, COMPLETE (KV-M1450D)					
	*A-1666-005-A	A AND C BOARD, COMPLETE (KV-M1451D)					
	*A-1666-050-A	A AND C BOARD, COMPLETE (KV-M1450K)					
	*A-1666-048-A	A AND C BOARD, COMPLETE (KV-M1451K)					
10	$\Delta$ 8-735-562-05	PICTURE TUBE (SD-125) (A443070X)					
14	*A-1638-064-A	C BOARD, COMPLETE					
		(KV-M1450D/M1451D/M1450K/M1451K)					

# SECTION 7 ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

CAPACITORS COILS  
MF : mF, PF : mmF MMH : mH,  $\mu$ H : mH

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.


## RESISTORS


- All resistors are in ohms
- F : nonflammable

The components identified by shading and marked  $\Delta$  are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1666-012-A	A AND C BOARD, COMPLETE (KV-M1450D)				< TRANSISTOR >	
		*****					
	*A-1666-005-A	A AND C BOARD, COMPLETE (KV-M1451D)		Q302	8-729-900-53	TRANSISTOR DTC114EK	
		*****		Q303	8-729-900-53	TRANSISTOR DTC114EK	
	*A-1666-050-A	A AND C BOARD, COMPLETE (KV-M1450K)		Q304	8-729-900-53	TRANSISTOR DTC114EK	
		*****		Q305	8-729-900-53	TRANSISTOR DTC114EK	
	*A-1666-048-A	A AND C BOARD, COMPLETE (KV-M1451K)		Q306	8-729-900-53	TRANSISTOR DTC114EK	
		*****					
		< CAPACITOR >		Q801	8-729-140-96	TRANSISTOR 2SD774-34	
C012	1-163-031-11	CERAMIC CHIP 10000PF	50V			< RESISTOR >	
C016	NOT USED	(KV-M1450D/M1450K)		JR003	1-216-295-00	METAL GLAZE 0 5% 1/10W	
C017	NOT USED	(KV-M1451D/M1451K)		JR013	NOT USED		
C036	1-164-222-11	CERAMIC CHIP 0.22MF	25V	JR022	1-216-295-00	METAL GLAZE 0 5% 1/10W	
C158	1-124-963-11	ELECT 4.7MF	20% 50V	JR023	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR027	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C169	1-163-009-11	CERAMIC 0.001MF	10% 50V	R043	1-249-412-11	CARBON 390 5% 1/4W	
C309	1-126-963-11	ELECT 4.7MF	20% 50V	R048	1-247-807-31	CARBON 100 5% 1/4W	
C321	1-126-963-11	ELECT 4.7MF	20% 50V	R334	1-216-025-00	METAL GLAZE 100 5% 1/10W	
C406	1-126-963-11	ELECT 4.7MF	20% 50V	<del>R412 1-260-135-11 CARBON 1M 5% 1/2W</del>			
C413	1-126-963-11	ELECT 4.7MF	20% 50V	R726	1-260-135-11	SOLID 1M 5% 1/2W	
C501	1-126-963-11	ELECT 4.7MF	20% 50V	R727	1-260-123-11	SOLID 100K 5% 1/2W	
C504	1-126-968-11	ELECT 100MF	20% 50V	R731	1-260-135-11	SOLID 1M 5% 1/2W	
C511	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V			< TRANSFORMER >	
<del>C612 1-113-907-51 CERAMIC 0.0022MF 20% 250V</del>				<del>T602 1-427-944-21 TRANSFORMER, POWER</del>			
<del>G613 1-113-907-51 CERAMIC 0.0022MF 20% 250V</del>						< TUNER >	
		< CONNECTOR >					
CN001	*1-564-508-11	PIN, CONNECTOR 5P		TU101	1-693-310-11	TUNER (TELE4-002B) (KV-M1450D/M1451D)	
<del>CN602 1-508-786-11 PIN, CONNECTOR (5MM PITCH) 2P</del>						*****	
		< DIODE >				*A-1638-064-A C BOARD, COMPLETE	
D305	NOT USED					*****	
D315	8-719-991-33	DIODE 1SS133T-77				< RESISTOR >	
D414	8-719-991-33	DIODE 1SS133T-77					
		< FUSE >					
	<del>F601 1-533-725-11 HOLDER, FUSE ; F601</del>			R726	1-260-135-11	SOLID 1M 5% 1/2W	
		< FERRITE BEAD >		R727	1-260-123-11	SOLID 100K 5% 1/2W	
FB605	1-410-396-51	FERRITE BEAD INDUCTOR 0.45UH		R731	1-260-135-11	SOLID 1M 5% 1/2W	
		< IC >				*****	
IC003	8-747-905-11	IC SBX1790-51					

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and marked  are critical for safety. Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
---------	----------	-------------	--------	---------	----------	-------------	--------

MISCELLANEOUS  
\*\*\*\*\*

1-540-007-12	CAP ASSY, HIGH-VOLTAGE	
1-690-270-21	CORD, POWER (WITH CONNECTOR)	
	2.5A/250V	(KV-M1450D/M1451D)
1-693-310-11	TUNER (TELE4X-002B)	(KV-M1450D/M1451D)
8-735-562-05	PICTURE TUBE (SD-125)	(A34JBU70X)

\*\*\*\*\*

ACCESSORIES AND PACKING MATERIALS  
\*\*\*\*\*

1-501-840-11	ANTENNA, TELESCOPIC	(KV-M1450K/M1451K)
*4-039-905-02	BAG, PROTECTION	
*4-203-024-11	CUSHION (UPPER) (ASSY)	
*4-203-025-11	CUSHION (BOTTOM) (ASSY)	
*4-203-099-11	INDIVIDUAL CARTON	(KV-M1450D/M1451D)
*4-203-077-11	INDIVIDUAL CARTON	(KV-M1450K/M1451K)

\*\*\*\*\*